



1929.

QUEENSLAND.

---

# ANNUAL REPORT

OF

# THE COMMISSIONER OF PUBLIC HEALTH

TO

30<sup>TH</sup> JUNE, 1929.

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PRESENTED TO PARLIAMENT BY COMMAND.

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BRISBANE :

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ANNUAL REPORT OF THE COMMISSIONER OF  
PUBLIC HEALTH,  
1928-1929.

TO THE ASSISTANT UNDER SECRETARY, HOME SECRETARY'S DEPARTMENT.

Brisbane, 20th September, 1929.

SIR,—I have the honour to submit for the Minister's information the following particulars regarding the work carried out by this Department during the twelve months ended the 30th June, 1929, as well as my comments regarding Public Health administration for the State of Queensland.

CRUDE BIRTH RATE.

Country.	Year.	Birth Rate.	Year.	Birth Rate.
Queensland .. .. .	1927	22·23	1928	21·76
New South Wales .. .. .	1927	22·69	1928	22·60
Victoria .. .. .	1927	20·30	1928	19·70
South Australia .. .. .	1927	20·12	1928	19·76
Western Australia .. .. .	1927	22·03	1928	21·79
Tasmania .. .. .	1927	23·01	1928	22·13
Commonwealth .. .. .	1927	21·67	1928	21·33
New Zealand .. .. .	..	..	1927	20·8
England and Wales .. .. .	1926	17·8	1927	16·7
Scotland .. .. .	1926	20·9	1927	19·8
Irish Free State .. .. .	1926	20·6	1927	20·3
Canada .. .. .	1926	21·5	1927	24·6
South Africa .. .. .	1926	26·2	1927	26·2

DEATH RATE.

Country.	Year.	Death Rate.	Year.	Death Rate.
Queensland .. .. .	1927	9·06	1928	8·77
New South Wales .. .. .	1927	9·59	1928	9·34
Victoria .. .. .	1927	9·71	1928	10·11
South Australia .. .. .	1927	8·98	1928	8·92
Western Australia .. .. .	1927	8·81	1928	9·11
Tasmania .. .. .	1927	9·68	1928	10·06
New Zealand .. .. .	..	..	1927	8·45
England and Wales .. .. .	1926	11·6	1927	12·3
Scotland .. .. .	1926	13·0	1927	13·5
Irish Free State .. .. .	1926	14·1	1927	14·8
Canada .. .. .	1926	11·4	1927	11·1
South Africa .. .. .	1926	9·5	1927	6·0

RATES OF INFANTILE MORTALITY IN VARIOUS COUNTRIES.

Country.	Year.	Death Rate per 1,000 Births.	Year.	Death Rate per 1,000 Births.
Queensland .. .. .	1927	54·5	1928	45·5
New South Wales .. .. .	1927	54·9	1928	54·9
Victoria .. .. .	1927	56·1	1928	55·6
South Australia .. .. .	1927	53·4	1928	47·5
Western Australia .. .. .	1927	45·9	1928	48·1
Tasmania .. .. .	1927	53·0	1928	64·0
New Zealand .. .. .	..	..	1927	38·7
England and Wales .. .. .	1926	70·0	1927	70·0
Scotland .. .. .	1926	83·0	1927	89·0
Irish Free State .. .. .	1926	74·0	1927	70·0
Canada .. .. .	1926	79·0	1927	94·0
South Africa .. .. .	1926	68·0	1927	65·0



The foregoing tables furnish significant evidence in respect to the satisfactory position held by this State as regards its vital statistics, especially in the matter of the death rate, which is one of the lowest of all the countries outlined in the tables. The rate of infantile mortality—i.e., deaths per 1,000 births—is the lowest of all the States of the Commonwealth, and there is a marked decrease in this year's rate compared with that of last year.

The Director of Infant Welfare (Dr. A. Jefferis Turner) in his annual report draws attention to the marked decrease in the infantile mortality rate, and makes a comparative statement for the last five years of the Australian States as well as New Zealand. He points out that the three States showing the lowest mortality for the period under review were South Australia (48.6), Queensland (49.4), and Western Australia (50.0). Tasmania, which might be expected to enjoy climatic advantages, had a higher mortality (54.7). New Zealand, which had a lower mortality twenty years ago, still maintained this advantage, and showed in the last five years a fall to a remarkably low figure of 38.7 per cent. The mortality rate in the city of Brisbane has always been higher than that of the other parts of the State, but this is now steadily decreasing, and may be attributed to progress made in Infant Welfare work. The crude birth rate for this State compares favourably with that shown for the other countries in the table.

The particulars outlined above are most gratifying from a public health point of view, as it is proved that Queensland may justly claim to be one of the healthiest places of the Empire, and this may be recorded as an asset of which we as a State may feel justly proud.

COMMUNICABLE DISEASES  
(Exclusive of Venereal Diseases.)

Metropolitan Area.

(Notifiable under the Ordinances of the Brisbane City Council.)

Diseases.	1927-28.	1928-29.
Anchylostomiasis .. ..	..	..
Amoebic Dysentery .. ..	1	1
Cerebro-spinal Meningitis .. ..	3	..
Diarrhoea, Infantile .. ..	30	1
Diphtheria .. ..	715	653
Dysentery .. ..	7	..
Encephalitis Lethargica .. ..	1	3
Erysipelas .. ..	62	52
Infantile Paralysis .. ..	1	10
Malaria .. ..	..	..
Membranous Croup .. ..	..	..
Meningitis .. ..	2	..
Phthisis (Pulmonary Tuberculosis) .. ..	175	173
Puerperal Fever .. ..	17	26
Puerperal Pyrexia .. ..	5	19
Puerperal Sepsaemia .. ..	1	3
Puerperal Septicaemia .. ..	..	1
Scarlet Fever .. ..	428	190
Typhoid Fever .. ..	43	30
Total .. ..	1,491	1,162

Outside Areas.

Diseases.	1927-28.	1928-29.
Anchylostomiasis .. ..	4	9
Brills Disease (gazetted notifiable 23-12-27)	10	43
Cerebro-spinal Meningitis .. ..	8	11
Diphtheria .. ..	1,144	1,153
Dysentery (Thursday Island) .. ..	2	..
Encephalitis Lethargica (gazetted notifiable 23-12-27)	2	4
Erysipelas .. ..	26	27
Infantile Paralysis .. ..	3	12
Malaria .. ..	1	..
Membranous Croup .. ..	1	12
Phthisis (Pulmonary Tuberculosis)	177	219
Puerperal Fever .. ..	14	17
Puerperal Pyrexia (gazetted notifiable 23-12-27)	5	5
Scarlet Fever .. ..	417	280
Typhoid Fever .. ..	77	182
Typhoid group (Cairns only) .. ..	25	..
Typhus Fever, probably Brill's Disease (Glengallan, South Queensland, only)	2	..
Totals .. ..	1,918	1,974

DIPHtheria.

As mentioned in the comparative statement of communicable diseases (exclusive of venereal diseases) above, 1,153 cases of diphtheria were notified during the period covered by this report in local authorities' areas outside the metropolis, as against 1,144 during 1927-28 and 1,361 reported during 1926-27.

Of the total, 671 were advised from the following thirteen centres, so that 482 were notified from 137 remaining areas, an average of approximately 4 patients:—Ayr, Charters Towers, Esk, Gympie, Herberton, Ipswich, Kingaroy, Longreach, Mirani, Rockhampton, Townsville, Toowoomba, Warwick.

During the term covered by this report the Chief Medical Officer of the Department of Public Instruction advises that a total of 7,920 scholars, attending 46 schools throughout the State, were swabbed, with the result that 346 diphtheria "carriers" were detected, an average of 4.4 (during the previous year an average of 5.5 carriers of bacillus diphtheria was found—6,465 scholars being swabbed and 355 carriers detected).

From the 21st February, 1929, the Diphtheria Regulations of 1929 were gazetted; the principal amendments to the then-existing regulations gazetted on the 5th March, 1927, were—

- (a) In Regulation 3 it is now provided that the Commissioner shall be furnished with all such information relating to the subject-matter and the administration of these regulations at such times as he may require or direct, and failure to furnish same shall constitute a breach of the regulations.
- (b) In Regulation 4, "patient" now includes an infected person or a person suspected of being infected with diphtheria.
- (c) Regulation 10.—A proviso has been added to this regulation which deals with the discharge of patients and carriers from isolation, and local authorities are assisted thereby, as the medical practitioner in charge of the case



is required to furnish a certificate to the local authority concerned, as soon as possible after admission to isolation, that any person suspected only of being infected with diphtheria has not had diphtheria. The cost of treatment, which in hospitalised cases is a charge against the local authority, will thus be lessened, as previously the majority of "suspect" cases were required by the doctor in charge to comply strictly with the provisions of the regulations in question, and by which three specimens taken at intervals of at least forty-eight hours were obliged to show no bacillus diphtheria, thus lengthening the isolation period and thereby increasing the cost to the Council.

Seventy deaths from diphtheria occurred in Queensland last year, but with prompt attention there should have been practically no mortality. The cause may be attributed to the fact that diphtheria antitoxin is not administered early enough, or the initial dose given is too small. Delay in treatment is due either to neglect or ignorance on the part of the parents or guardians in not obtaining medical advice in cases of sore throats, or on the part of the medical practitioner in not administering antitoxin when the case is first seen. It is a mistake to wait for bacteriological confirmation of diagnosis before injection of this specific remedy, as the life of the patient is more important than the correctness of the diagnosis; to delay treatment until a case is hospitalised is again an error and is often fatal.

#### TYPHOID FEVER.

Regarding the increase of 105 cases of typhoid fever outside the metropolitan area, 83 of these cases were notified from the Cloncurry Shire area in north-western Queensland during the period under review.

On the 28th November, 1928, an urgent telegram was received from Dr. Shepherdson, Medical Officer of Health to the Cloncurry Shire Council, advising that he had seventeen typhoid cases in hospital, and desired that the schools be closed and the services of a bacteriologist made available, and further mentioned that he intended vaccinating the whole of the population.

The medical officer was notified that vaccine was available and that permission had been given to the closure of the school. The bacteriologist, with an assistant, proceeded by first train, as did the Departmental Inspector stationed at Townsville, our local representative being absent on leave. A telegraphic inquiry was addressed to the council asking for a report by its Health Inspector on the local conditions bearing on the outbreak.

The bacteriologist (Mr. Brown) reported on his return that fourteen Widal reactions on the sera of fourteen patients all gave positive agglutinations against *B. Typhosus* (Rawlings), thus confirming the medical officer's clinical diagnosis, and he concluded that the outbreak was due to water contamination, but in this, as in almost all the water-borne epidemics of typhoid fever, the evidence is circumstantial.

The outbreak followed the type of a water-borne infection—sudden onset, sharp rise to peak, and rapid decline. The first advice was on 28th November, when seventeen cases were in hospital, and a total of seventy-six notifications were received by this Department to the end of December, and three in January (two further cases were reported in March, which probably, however, were not connected with the general infection of November and December, and two patients were reported in June from outside the town boundary). Dr. Shepherdson promptly had the water supply chlorinated, and, although this action was most commendable and probably prevented many more cases, it removed every chance of our bacteriologist isolating the bacillus from the suspected sources. Nine samples of water were examined, with negative results.

Urine and faeces examinations of all persons connected with the producing and distributing of foodstuffs, such as milk and vegetables, yielded negative results in the forty-five instances in which this action was taken; specimens were obtained in this regard from twenty-nine milk vendors and fourteen vendors of vegetables, &c.

It was ascertained that thirteen males who were camping on the banks of the watercourse at the beginning of the epidemic—i.e., 26th November, 1928—left the district before they could be inoculated, and the Town Clerk at Townsville, the Shire Clerk at Camooweal, as well as at Cloncurry, to whose areas the men were believed to have proceeded, were asked to have them medically examined and specimens forwarded to the nearest Commonwealth Health Laboratory, if possible, with a view to ensuring that they were not carriers of the disease. As a result three of the "suspects" were examined by the Medical Officer of Health to the Townsville City Council; another, who was located by the police at Townsville, was likewise examined by a private medical practitioner—in all four instances with negative results; a reply was awaited at date of this report (30th June, 1929) from the Cloncurry Council regarding four who had been located in that area by the police, and the remaining five could not be traced.

The theory advanced in certain quarters at Cloncurry, that dust was the indirect cause of the epidemic, may be dismissed, as typhoid bacilli die quickly when exposed to direct sunlight, and the temperature at the time varied from 104 degrees F. to 106 degrees F.

Two thousand five hundred doses of typhoid paratyphoid A and B vaccine were supplied by this Department to Dr. Shepherdson, and nearly the whole of the inhabitants were inoculated. These vaccines have been so successful in preventing typhoid fever that no one now doubts their efficacy; they involve no risk, and are useful especially in endemic centres and during an epidemic. Anyone visiting a place where the water supply and sanitary conditions are unsatisfactory should be inoculated beforehand. Typhoid vaccines will prevent typhoid in an individual, but in a community it would be a serious mistake to neglect general sanitary improvements and recklessly disregard other prophylactic measures because protection had been afforded by vaccines. Mass doses of infection are apt to break down this immunity, and



it must be remembered that typhoid inoculation is no substitute for sanitary precautions, and the more highly civilised the community and the better use made of the knowledge of sanitation the less typhoid fever results.

In connection with the increase of 105 cases of typhoid fever referred to above, it should be borne in mind that twenty-five patients were notified from Cairns during 1927-28 as sufferers from a "typhoid group," and if these were added to the typhoid cases also reported during the same period the incidence of typhoid would be practically the same as this year, excluding the Cloncurry outbreak under review.

Respecting the twenty-five cases of the typhoid fever group notified during 1927-28 in the Cairns area, referred to on page 5 of the Departmental Annual Report covering that period, Dr. Baldwin, Director of the Tropical Institute of Tropical Medicine, Townsville, advised in connection with the further investigations continuing at the date of such report that the result was that the organism was definitely typhoid, but an aberrant strain. It was non-motile or comparatively little motile, and gave only a late Widal test with the ordinary strains of typhosus used in the test. Sixteen out of seventeen blood sera collected gave a positive Widal with the organism isolated from the Cairns and Townsville cases, and three positive blood cultures were obtained out of three. He added that it was conclusively proved that "Cairns was a typhoid strain and that there was every justification in diagnosing the disease as typhoid fever."

#### SCARLET FEVER.

During the year an appreciable decrease was evidenced in the incidence of scarlet fever, the metropolitan figures being 190 as against 428 in 1927-28, whilst outside the metropolis 280 notifications of the disease were recorded as against 417 in the previous year, the figures for the State showing a reduction of 44 per cent.

On the 21st February, 1929, the Scarlet Fever Regulations of 1929 were gazetted, repealing the 1927 regulations of the 5th March of that year. As in the Diphtheria and Typhoid Fever Regulations referred to above, Regulation 3 provides that the Commissioner shall be furnished with all information relating to the subject-matter, and the administration of the regulations at such times as he may require or direct, and failure to furnish same will occasion a breach of the regulations. In Regulation 4 the interpretation of the word "Patient" was amended to read, "A person infected or suspected of being infected with scarlet fever."

As in the Diphtheria and Typhoid Fever Regulations of 1929, the local authority is responsible for superintending, executing, and enforcing these regulations within the area, and also for the provision of hospital accommodation and treatment where necessary, in respect of all cases and suspected cases of these diseases.

#### PLAGUE.

Another year has again passed without the appearance of plague in the State.

The slogan of all Health Authorities charged with the suppression of plague should be "Death

to the Rat," and without continuous efforts being maintained in this respect immunity from outbreaks cannot be expected.

Bacteriological examination of rodents is carried out at all the principal centres, especially at seaport towns, which are regarded as being the main danger points through which plague-infected rats from overseas may convey the disease to this State.

However, the Commonwealth authorities, recognising the importance of strictly supervising all shipping from Eastern ports, take precautions against the landing of any possibly infected rats.

The number of rats and mice examined by this Department's laboratory amount to 48,095, exclusive of 6,756 rats and 178 mice destroyed without examination, making a total of 55,029, which does not include rat smears received from outside centres. Although the number of rats destroyed and examined compares favourably with previous years, I am not satisfied that the rat population of our principal cities is being reduced, and from an economic as well as a health point of view every endeavour should be made to exterminate these rodents. In this connection a local authority may claim that because it is keeping up a fair yearly average of rats destroyed it is satisfactorily carrying out its obligations in respect to rat elimination, whereas such figures can in no way be so regarded.

Reduced rat gangs and larger catches appear to me to indicate that rats are more numerous, especially so as rat-proofing is being neglected.

The rat population is stated to equal the human, and the rat, in addition to being a carrier of bubonic plague, is a destructive animal; it is estimated that one rat will annually destroy from 10s. to 20s. worth of food, property, or merchandise.

Queensland, on a low estimate, is losing half a million sterling annually because the rat is being fed, housed, and not destroyed.

On account of our geographical situation the danger of plague being introduced is ever present, and if once again admitted the seriousness of the situation will be dramatically brought home by obstruction to transit, loss of trade, and most seriously by loss of valuable lives.

At present two methods of destroying rats are in operation in Queensland—that is, trapping and poisoning, and I regret to say these measures are only carried out in a half-hearted and haphazard way.

The above methods are of service but will not reduce the rat population of a city, unless the third and most valuable means is made use of—that is, to build the rat out by destroying his harbourages and rat-proofing of all existing buildings, especially those where food and grain are stored, and seeing that all new structures are built so as to be rat-proof. If Queensland is to be kept reasonably free from plague, all three methods must be methodically and consistently employed.



## PULMONARY TUBERCULOSIS.

The Part-time Medical Officer in charge of the Department's Tuberculosis Bureau during the year dealt with the following cases:—

- 16 patients sent to the Dalby Sanatorium.
- 21 patients sent to Diamantina Hospital.
- 1 patient sent to Westwood Sanatorium.
- 2 patients sent to Dunwich.

The doctor in charge of the branch examines persons applying for admission to the various

Government sanatoria, and it is on his report a selection is made as to which particular institution the case is admitted.

Twenty-five outside patients received treatment, many of whom were seen on several occasions.

A total of sixty-five patients was dealt with, which entailed some ninety attendances.

## VENEREAL DISEASES.

During the year 1928-29, 1,573 persons were notified by medical practitioners throughout Queensland as suffering from venereal disease, of whom 191 had been previously reported; thus the new cases for the period in question totalled 1,382, comprising 1,116 males and 266 females, as against 1,121 males and 252 females in 1927-28 (1,373) and 1,102 males and 217 females in 1926-27 (1,319).

Notifications received as above stated totalled 1,573 for 1928-29, whilst 1,508 came to hand in 1927-28 and 1,458 in 1926-27.

Disease.	METROPOLITAN AREA.				OUTSIDE METROPOLIS.				TOTALS FOR YEAR 1928-29.		TOTALS.
	July 1-Dec. 31. 1928.		Jan. 1-June 30. 1929.		July 1-Dec. 31. 1928.		Jan. 1-June 30. 1929.		M.	F.	
	M.	F.	M.	F.	M.	F.	M.	F.			
Gonorrhœa .. .. .	275	57	284	76	191	30	188	39	938	202	1,140
Syphilis .. .. .	44	15	45	11	19	4	24	12	132	42	174
Secondary Syphilis .. .. .	14	5	8	4	1	2	1	..	24	11	35
Gonorrhœa and Syphilis .. .. .	2	1	6	1	..	1	5	2	13	5	18
Gonorrhœa and Secondary Syphilis .. .. .	..	..	..	..	..	..	..	..	..	..	..
Soft Chancre .. .. .	3	..	..	..	..	..	1	..	4	..	4
Venereal Warts .. .. .	..	1	..	..	..	..	..	..	..	1	1
Ulcerative Granuloma .. .. .	..	..	..	..	..	..	4	5	4	5	9
Gonorrhœa and Granuloma .. .. .	..	..	..	..	1	..	..	..	1	..	1
Totals .. .. .	338	79	343	92	212	37	223	58	1,116	266	1,382
<i>Duplicated and not entered above—</i>											
Gonorrhœa .. .. .	28	1	50	6	25	3	33	5	136	15	151
Syphilis .. .. .	6	..	3	2	8	5	9	..	26	7	33
Secondary Syphilis .. .. .	1	1	..	..	..	..	1	..	2	1	3
Gonorrhœa and Syphilis .. .. .	..	..	1	..	..	..	..	..	1	..	1
Granuloma .. .. .	..	..	..	..	2	..	..	1	2	1	3
Total Duplicate Notifications received	35	2	54	8	35	8	43	6	167	24	191
Grand Total Notifications received during 1928-29 .. .. .	373	81	397	100	247	45	266	64	1,283	290	1,573

Aggregates—1,573 notifications; 1,382 patients.

## AGES OF PATIENTS NOTIFIED IN SEX GROUPS AND UNDER DISEASE HEADINGS.

## AGE GROUPS (YEARS.)

## (a) METROPOLITAN AREA.

Ages.	Gon.		Syph.		Sec. Syph.		Gon. and Syph.		Soft Chancre.		Ven. Warts.		Ulc. Gran.		Gon. and Gran.		Totals.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Unknown or unobtainable ..	12	1	3	3	..	1	..	..	..	..	..	..	..	..	..	..	15	5
1-2 .. .. .	1	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	4
2-3 .. .. .	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
3-4 .. .. .	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
4-5 .. .. .	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
5-10 .. .. .	..	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7
10-15 .. .. .	..	6	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	7
15-20 .. .. .	65	25	9	5	1	1	2	..	..	..	..	..	..	..	..	..	77	31
20-25 .. .. .	160	36	23	5	2	3	3	1	..	..	..	..	..	..	..	..	188	45
25-30 .. .. .	119	23	15	4	6	1	..	1	..	..	..	..	..	..	..	..	141	28
30-35 .. .. .	65	14	15	5	6	2	2	..	..	..	..	..	..	..	..	..	88	21
35-40 .. .. .	56	5	12	1	3	1	..	..	..	..	..	..	..	..	..	..	71	7
40-45 .. .. .	37	2	5	..	1	..	1	..	1	..	1	..	..	..	..	..	45	3
45-50 .. .. .	27	..	4	1	1	..	..	..	..	..	..	..	..	..	..	..	32	1
50-55 .. .. .	5	1	1	1	2	..	..	1	1	..	..	..	..	..	..	..	9	3
55 and over .. .. .	12	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	14	2
	559	133	89	26	22	9	8	2	3	..	..	1	..	..	..	..	681	171
	Grand Total ..																852	

AGES OF PATIENTS NOTIFIED IN SEX GROUPS AND UNDER DISEASE HEADINGS—*continued*.

## (b) OUTSIDE METROPOLIS.

Ages.	Gon.		Syph.		Sec. Syph.		Gon. and Syph.		Soft Chancre.		Ven. Warts.		Ulc. Gran.		Gon. and Gran.		Totals.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Unknown or unobtainable ..	26	5	7	10	..	1	1	..	..	..	..	..	4	5	1	..	39	21
1-2 .. ..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
2-3 .. ..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
3-4 .. ..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
4-5 .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5-10 .. ..	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3
10-15 .. ..	2	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	3
15-20 .. ..	38	7	1	2	..	..	..	2	..	..	..	..	..	..	..	..	39	11
20-25 .. ..	109	24	9	..	..	..	3	1	1	..	..	..	..	..	..	..	122	25
25-30 .. ..	100	13	10	1	..	..	1	..	..	..	..	..	..	..	..	..	111	14
30-35 .. ..	51	6	7	1	..	..	..	..	..	..	..	..	..	..	..	..	58	7
35-40 .. ..	26	1	4	2	2	..	..	..	..	..	..	..	..	..	..	..	32	3
40-45 .. ..	10	..	2	..	..	1	..	..	..	..	..	..	..	..	..	..	12	1
45-50 .. ..	10	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	12	2
50-55 .. ..	5	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	6	..
55 and over .. ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
	379	69	43	16	2	2	5	3	1	..	..	..	4	5	1	..	435	95
	Grand Total ..																530	

## (c) GRAND TOTALS FOR WHOLE STATE.

Ages.	Gon.		Syph.		Sec. Syph.		Gon. and Syph.		Soft Chancre.		Ven. Warts.		Ulc. Gran.		Gon. and Gran.		Totals.		Grand Totals.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Unknown or unobtainable ..	38	6	10	13	..	2	1	..	..	..	..	..	4	5	1	..	54	26	80
1-2 .. ..	1	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	7	8
2-3 .. ..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3
3-4 .. ..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3
4-5 .. ..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3
5-10 .. ..	1	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	10	11
10-15 .. ..	2	9	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2	10	12
15-20 .. ..	103	32	10	7	1	1	2	2	..	..	..	..	..	..	..	..	116	42	158
20-25 .. ..	269	60	32	5	2	3	6	2	1	..	..	..	..	..	..	..	310	70	380
25-30 .. ..	219	36	25	5	6	1	1	..	1	..	..	..	..	..	..	..	252	42	294
30-35 .. ..	116	20	22	6	6	2	2	..	..	..	..	..	..	..	..	..	146	28	174
35-40 .. ..	82	6	16	3	5	1	..	..	..	..	..	..	..	..	..	..	103	10	113
40-45 .. ..	47	2	7	..	1	1	1	..	1	..	..	1	..	..	..	..	57	4	61
45-50 .. ..	37	2	6	1	1	..	..	..	..	..	..	..	..	..	..	..	44	3	47
50-55 .. ..	10	1	2	1	2	..	..	1	1	..	..	..	..	..	..	..	15	3	18
55 and over .. ..	13	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	15	2	17
Totals .. ..	938	202	132	42	24	11	13	5	4	..	..	1	4	5	1	..	1,116	266	1,382

## SOCIAL STATUS OF PATIENTS NOTIFIED IN DISEASE AND SEX GROUPS.

## (a) METROPOLITAN AREA.

—	Gon.		Syph.		Sec. Syph.		Gon. and Syph.		Soft Chancre.		Ven. Warts.		Ulc. Gran.		Gon. and Gran.		Totals.		Grand Totals.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Married .. ..	119	44	20	13	7	5	1	1	2	..	..	..	..	..	..	..	149	63	212
Single .. ..	415	85	63	13	13	4	7	1	1	..	..	1	..	..	..	..	499	104	603
Separated .. ..	15	1	4	..	1	..	..	..	..	..	..	..	..	..	..	..	20	1	21
Widowed .. ..	7	3	2	..	1	..	..	..	..	..	..	..	..	..	..	..	10	3	13
Unknown .. ..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	3
Totals .. ..	559	133	89	26	22	9	8	2	3	..	..	1	..	..	..	..	681	171	852

## (b) OUTSIDE METROPOLIS.

—	Gon.		Syph.		Sec. Syph.		Gon. and Syph.		Soft Chancre.		Ven. Warts.		Ulc. Gran.		Gon. and Gran.		Totals.		Grand Totals.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Married .. ..	77	16	3	2	..	2	..	..	..	..	..	..	3	5	1	..	84	25	109
Single .. ..	292	48	34	5	1	..	4	3	1	..	..	..	..	..	..	..	332	56	388
Separated .. ..	5	1	..	..	1	..	..	..	..	..	..	..	1	..	..	..	7	1	8
Widowed .. ..	5	3	6	9	..	..	1	..	..	..	..	..	..	..	..	..	12	12	24
Unknown .. ..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Totals .. ..	379	69	43	16	2	2	5	3	1	..	..	..	4	5	1	..	435	95	530



SOCIAL STATUS OF PATIENTS NOTIFIED IN DISEASE AND SEX GROUPS—*continued*.  
(c) TOTAL FOR STATE.

	Gon.		Syph.		Sec. Syph.		Gon. and Syph.		Soft Chancre.		Ven. Warts.		Ulc. Gran.		Gon. and Gran.		Totals.		Grand Totals.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Married .. ..	196	60	23	15	7	7	1	1	2	..	..	..	3	5	1	..	233	88	321
Single .. ..	707	133	97	18	14	4	11	4	2	..	..	1	..	..	..	..	831	160	991
Separated .. ..	20	2	4	..	2	..	..	..	..	..	..	..	1	..	..	..	27	2	29
Widowed .. ..	12	6	8	9	1	..	1	..	..	..	..	..	..	..	..	..	22	15	37
Unknown .. ..	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	1	4
Totals .. ..	938	202	132	42	24	11	13	5	4	..	..	1	4	5	1	..	1,116	266	1,382

SOURCES OF NOTIFICATION.

	Metro-polis.	Outside Metro-polis.	Totals.
Clinics .. ..	372	148	520
Private Doctors .. ..	364	286	650
Hospitals (other than Clinics)	116	96	212
Totals .. ..	852	530	1,382

STATED SOURCES OF INFECTION.

Sources of Infection.	AREA.		Totals.
	Metro-politan.	Outside Areas.	
Prostitutes from houses ..	33	30	63
Prostitutes unknown ..	148	137	285
Non-professional .. ..	292	100	392
Husbands .. ..	13	2	15
Wives .. ..	22	8	30
Unknown or unstated ..	295	225	520
Occupational .. ..	43	17	60
Extragenital .. ..	3	Nil	3
Black-gins .. ..	Nil	8	8
Criminal assault .. ..	2	2	4
Sodomy .. ..	1	Nil	1
E.C. .. ..	Nil	1	1
	852	530	1,382
Infections attributed to sources outside State ..	12	18	30

MALE CLINIC, BRISBANE.

As in 1927-8, five Part-time Medical Officers attended to patients who presented themselves for examination at the clinic in question, and their consultation hours remained the same—i.e., 11.30 a.m. to 1 p.m. and 7 to 8 p.m. on Mondays to Fridays inclusive, and 9 to 10 a.m. on Saturdays, whilst the irrigation rooms were opened for three sessions daily, from Mondays to Fridays inclusive (morning, midday, and evening), twice on Saturdays (morning and evening), and for an hour each Sunday (and on public holidays).

Six hundred and forty-eight new cases reported during the year, of whom 373 were diagnosed as suffering from venereal disease and notified accordingly; these figures disclose a slight increase on those of the previous period (1927-8), which were 629 and 356 respectively.

The 373 notified patients comprised—

Gonorrhœa .. ..	300
Syphilis .. ..	52
Secondary Syphilis .. ..	16
Gonorrhœa and Syphilis .. ..	5
Total .. ..	373

The balance of the cases—i.e., 275—comprised 25 gonorrhœal and 3 syphilitic, who had been notified previously by medical practitioners for the same complaints and were therefore duplicate notifications, and 247 who were undiagnosed or suffering from conditions other than venereal.

A comparative monthly summary of the work carried out at the clinic for the years 1927-28 and 1928-29 is shown hereunder:—

	1927-28.	1928-29.
Consultations .. ..	8,146	9,470
a.m. 2,912	a.m. 3,238	
p.m. 5,344	p.m. 6,232	
New cases .. ..	629	648
Bloods taken for W.R. ..	525	693
Smears taken .. ..	1,921	2,166
Neosalvarsan administered ..	1,230	1,206
Muthanol administered ..	676	Nil
Bismol administered ..	106	1,453
Vaccine (Commonwealth Serum Laboratory), mixed, administered .. ..	471	875
Prescriptions dispensed by Departmental part-time chemist .. ..	3,196	2,921
Prostatic massages .. ..	5,584	6,775
Irrigations .. ..	39,636	40,653
Seamen's cards issued to oversea sailors under Quarantine Regulations ..	13	17
Certificates of cure or apparently free from disease issued .. ..	189	219
Certificates of cure or apparently free from disease received for clinic patients from medical practitioners outside clinic	1	8

At the 30th June, 1929, there were 344 patients on the clinic records, as against 309 at 30th June, 1928, and 333 at 30th June, 1927, vide the following comparative table:—

	1928-29.	1927-28.	1926-27.
Gonorrhœa .. ..	167	148	163
Syphilis .. ..	88	74	27
Secondary Syphilis .. ..	33	38	31
Gonorrhœa and Syphilis ..	9	5	7
Tertiary Syphilis .. ..	6	Nil	Nil
Gonorrhœa and Secondary Syphilis	4	4	1
Undiagnosed and Non-venereal	37	40	104
	344	309	333

From the table it will be seen that 307 actual venereal sufferers were attending the clinic at the date of this report (1st July, 1929), as against 269 and 229 at 1st July, 1928, and 1st July, 1927, respectively.

#### FEMALE PATIENTS TREATED BY DEPARTMENTAL MEDICAL OFFICERS, BRISBANE.

During the year under review 83 females called at the Department, as against 42 during 1927-28, and were referred to the Departmental Venereal Diseases Medical Officers.

Of the number, 19 were diagnosed as venereal within the meaning of the Health Acts of this State and notified, as under:—

Gonorrhœal .. .. .	11
Syphilitic .. .. .	2
Secondary syphilitic .. .. .	2
	—
	15
Gonorrhœal, but previously reported ..	2
Syphilitic, but previously reported ..	2
	—
Total .. .. .	19

These figures include the 7 women who were alleged to have infected male sufferers, in which connection please refer to heading "Official Forms F issued" later on in the report.

Seven official notices were issued on 5 of these clinic female Departmental cases, and 3 of them were proceeded against for breaches of Venereal Disease Regulation No. 9, two being withdrawn and the third convicted and fined.

#### BREACHES OF SECTION 162 (3) OF "THE HEALTH ACTS, 1900 TO 1922."

(Failure to continue medical treatment for venereal disease within prescribed periods.)

##### (a) Male Clinic, Brisbane.

Two hundred and five patients attending the clinic were reported during the period under notice in this connection, of whom 188 were written to and the remaining 17 names were forwarded to the Police Department, as only insufficient addresses were recorded, the men being nomads.

Summary of action taken is tabulated hereunder:—

Letters posted to .. .. .	188
Resumed treatment again ..	72
Replies outstanding, 1st July, 1929 .. .. .	19
Police asked to locate and warn .. .. .	97
	—
	188
Names forwarded to police 97, plus 17 referred to above .. .. .	114
Warned and resumed treatment .. .. .	38
Ascertained to have left State ..	9
Not located .. .. .	38
Outstanding at date of report ..	29
	—
	114

On page 9 of last year's report it will be noted that Police reports respecting 25 defaulters were awaited, as also replies from 21 persons written to in this regard.

Two of the latter reported back, and the names of the remainder (i.e., 19) were sent on to the Police Department, who advised in regard to the 44 that 19 were warned (and resumed treatment), 6 had left Queensland, and 19 could not be traced.

#### (b) Defaulters from Treatment Notified from all Sources outside Brisbane Male Clinic.

One hundred and five males and thirty-three females were notified by medical practitioners for failing to continue medical treatment (exclusive of those referred to in heading (a) above)—a total of 138 persons.

No action was taken regarding 2 of the men, whose addresses were shown as outside Queensland, and 69 of the other cases were written to, whilst the Police authorities were requested to interview the remaining 67 if possible.

##### Summary of results of action.

Letters to .. .. .	69
Resumed treatment .. .. .	22
Reply from New South Wales ..	1
Certificate of cure forwarded by .. .. .	1
Replies outstanding at 1st July, 1929, from .. .. .	2
Forwarded to police, as no replies .. .. .	43
	—
	69

##### Police action—

Referred for action 43 + 67 (direct) ..	110
Not traced .. .. .	18
Warned and complied with the law .. .. .	66
Warned and obtained certificate of cure .. .. .	5
Warned, but ascertained to be mental .. .. .	1
Located in prison .. .. .	3
Ascertained to have died ..	1
Ascertained to have left State ..	6
Inquiries not finalised at 1st July, 1929, re .. .. .	10
	—
	110

At 1st July, 1929, vide page 9 of the Annual Report for 1927-28, inquiries were being continued by the Police regarding 17 defaulters, of whom 6 were not located, 10 were warned and resumed treatment, and the other produced a certificate of cure when reinterviewed.

Both of the aboriginals referred to on the same page were located by the Chief Protector of Aboriginals and placed under treatment.

#### (c) Summary of Action taken during 1928-29 Respecting V.D. Defaulters Notified throughout the State.

Total number notified (310 males and 33 females) .. .. .	343
Letters sent to .. .. .	257
No action taken as outside State .. .. .	2
Referred direct to police ..	84
	—
	343

##### Results of action—

Resumed treatment or obtained certificates of cure .. .. .	204
Ascertained to have left State .. .. .	18
Ascertained to have died ..	1
Ascertained to be mental case ..	1
Ascertained to be in H.M. Prison .. .. .	3
Not located .. .. .	56
Inquiries continuing at 1st July, 1929 .. .. .	39
Replies awaited to letters from .. .. .	21
	—
	343



*Prosecutions for Various Breaches of "The Health Acts, 1900 to 1922," relating to Venereal Diseases and "The Venereal Diseases Regulations of 1928."*

Proceedings under this heading were instituted against 80 persons during the year, of whom 58 were females and 22 males, and in addition 1 female and 4 males were proceeded against for breaches committed during June, 1928.

There were thus 85 cases, of which 62 offences were committed in Brisbane and 23 in outside areas of the State.

*Summary.*

Regulation 9 of "The Venereal Diseases Regulations of 1928" (Failure to comply with official notice issued by the Commissioner of Public Health).

*Brisbane—*

3 males and 1 female from 1927-28 withdrawn.  
9 males and 1 female convicted and fined £63 and £1 15s. costs.

Cases against 2 females withdrawn.

*Outside Metropolis—*

1 male case outstanding at 1st July, 1929.  
1 male convicted and fined £20 and £2 5s. 6d. costs.  
1 female fined £5 and 3s. 6d. costs.  
1 male case withdrawn as patient resumed treatment.

Regulation 10 of "The Venereal Diseases Regulations of 1928" (Failure by prostitute to report for medical examination as directed):

*Brisbane—*

5 cases withdrawn, 1 outstanding at 1st July, 1929; 2 cases convicted, costs of court 3s. 6d. allowed in each instance, but no fine imposed; 4 fined a total of £15 and 14s. costs = £15 fines and £1 1s. costs; 12 cases.

*Outside Metropolis—*

20 cases, of which 1 withdrawn; 1 dismissed as not sufficient time allowed from date of service of form; and 18 fined £62 and £7 7s. costs of court.

Regulation 13 of "The Venereal Diseases Regulations of 1928" (Escaping from detention imposed by order issued under section 164 (2) of "The Health Acts, 1900 to 1922").

*Brisbane (only)—*

Cases against 3 females pending at date of this report.

Section 162 (3) of "The Health Acts, 1900 to 1922" (Failure to report to medical practitioner within periods prescribed).

1 male fined £3 in case pending from 1927-28; 5 cases against males withdrawn; 2 males convicted and fined £10 and 7s. costs; 2 females convicted and fined £8 and 7s. costs = 10 cases; total fines and costs £21 and 14s., respectively.

Section 168 (1) (iv.) (Occupies or resides in a house frequented by prostitutes).

*Brisbane (only).—*

1 male convicted and fined £25 and £2 5s. 6d. costs of court.

Section 168 (1) (2) of "The Health Acts, 1900 to 1922" (Being a male person knowingly lives wholly or in part on the earnings of prostitution).

*Brisbane (only).—*

2 males convicted and sentenced to 6 months and 3 months, respectively.

Section 168 (1) (b) of "The Health Acts, 1900 to 1922" (Soliciting or importuning for immoral purposes in any public place or within the view or hearing of any person therein).

18 females proceeded against; 2 cases were withdrawn, and 16 women were convicted and fined £70 and £2 16s. costs.

Satisfactory explanations were received in all instances where proceedings were withdrawn, and as will be noted the fines imposed amounted to £281 and the costs allowed totalled £18 7s. 6d.—a grand total of £299 7s. 6d.

In the previous year (1927-28) 78 persons were charged under this heading, i.e., 61 in Brisbane and 17 outside the metropolis, and fines and costs amounted to £248 15s.

*Prisoners detained under section 164 (2) (c) of "The Health Acts, 1900 to 1922."*

Twenty-three prisoners were detained for treatment during the year whilst serving sentences in His Majesty's prisons, comprising 16 males and 5 females in Brisbane and 2 males in outside areas; the 5 women were transferred to the Venereal Isolation Hospital.

**SUMMARY.**

Centre.							Number remaining on 30th June, 1928.		Admitted during period.		Discharged during period.		Remaining at 30th June, 1929.	
							M.	F.	M.	F.	M.	F.	M.	F.
Brisbane	..	..	..	..	..	..	3	..	16	5	14	5	5	..
Rockhampton	..	..	..	..	..	..	..	..	1	..	*1	..	..	..
Townsville	..	..	..	..	..	..	1	..	1	..	..	..	1	..
Totals	..	..	..	..	..	..	4	..	18	5	15	5	6	..

\* Rockhampton male case identical with a Brisbane gaol case.

The Brisbane female prisoners were transferred to the Venereal Isolation Hospital, South Brisbane, and discharged from there.

The diagnoses of the cases admitted were:—

*Brisbane—*

Gonorrhœa, 12 males, 4 females; syphilis, 4 males (over 50 per cent.), 1 female; total 21.

*Rockhampton—*

Male—syphilis, 1.

*Stewart's Creek, Townsville—*

Male—granuloma, 1.

*Official Form F., issued by the Commissioner of Public Health under Section 164 (1) of "The Health Acts, 1900 to 1922," on persons to whom sufferers, by written statement, ascribed infection.*

*Metropolitan Area.*—Eight statements were received in Brisbane from male cases, and, as a result of action, four females were found to be non-venereal, one could not be traced, two were ascertained to be gonorrhœal, and one syphilitic.



*Outside Areas.*—Three statements were received from male patients and one from a female, and, as a result of action, the man was found to be suffering from gonorrhœa, as was one of the women.

*Official Form G (Regulation 9 of "The Venereal Diseases Regulations of 1928"), issued on persons suspected to be suffering from venereal disease.*

Brisbane.—One hundred and thirty-one of these forms were issued during the year—115 on defaulters from the Brisbane male clinic, and seven on five females attending the Departmental Medical Officers, whilst nine were issued on prisoners at H.M. Prison.

As a result, 93 persons complied, 26 were not served, and 12 disobeyed; the latter, comprising 9 males and 3 females, were prosecuted, 10 being convicted and fined, whilst prosecutions were withdrawn in two instances.

Outside the Metropolis.—Fifteen forms were issued on persons resident outside Brisbane—at Bundaberg, Kilcoy, Rockhampton, Toowoomba, Townsville, and outside Burketown; 12 of them were issued on defaulters from treatment (8 males and 4 females). Two of the forms were not served on the defaulters, and of the ten delivered by the Police to the addressees, six conformed with the notices and four were prosecuted for failing to obey.

## SUMMARIES.

Official Form F.	Metropolis.		Outside Areas.		Totals.	
	M.	F.	M.	F.	M.	F.
Found non venereal ..	..	4	..	1	..	5
Not served ..	..	1	..	..	..	1
Outstanding at 30/6/29 ..	..	..	..	1	..	1
Found gonorrhœal ..	..	2	1	1	1	3
Found syphilitic ..	..	1	..	..	..	1
	..	8	1	3	1	11
					12	

Official Form G.	Metropolis.		Outside Areas.		Totals.	
	M.	F.	M.	F.	M.	F.
Suspects—						
Found non-venereal ..	..	..	..	1	..	1
Not served ..	..	..	1	..	1	..
Regarding whom advice awaited ..	..	..	1	..	1	..
Found gonorrhœal ..	..	..	..	..	..	..
Found syphilitic ..	..	..	..	..	..	..
Defaulters—						
Served and who reported back ..	83	2	3	3	86	5
Not served ..	23	2	2	..	25	2
Prisoners—						
Who reported at clinic as required ..	8	..	..	..	8	..
Who failed to report but had been re-arrested before action could be taken against him ..	1	..	..	..	1	..
Prosecutions for breaches of V. D. Diseases Reg. 9, disobeying Form G ..	9	3	2	1	11	4
Prosecutions pending ..	..	..	1	..	1	..
	124	7	10	5	134	12
					146	

## EXAMINATION AND TREATMENT OF PROSTITUTES.

Regulation 10 of "*The Venereal Diseases Regulations of 1928*" and Section 164 (2) (a) and (b) of "*The Health Acts, 1900 to 1922.*"

*Brisbane (Examinations).*

William street rooms—

Examinations conducted ..	..	851
Smears received from ..	..	2,553

*Brisbane (Treatment).*

Venereal Isolation Hospital, Park road, South Brisbane—

Admissions during 1928-29 ..	..	55
Smears submitted during 1928-29 ..	..	1,056

For particulars of the total number of women treated at the Venereal Isolation Hospital during 1928-29 see table below, showing 55 admissions and total of 77 treated. The 55 were diagnosed as—Gonorrhœal 50, syphilitic 2, venereal warts 1, and venereal within the meaning of subsection 2 of section 164 of the Health Acts (i.e., over 50 per cent. polymorphnuclear leucocytes detected in smears) 2.

The 22 on hand at 1st July, 1928, were notified as—Gonorrhœal 17, gonorrhœal and syphilitic 1, and syphilitic 4.

Outside the metropolis, prostitutes are examined periodically at fourteen centres—namely, Ayr, Bowen, Bundaberg, Cairns, Charters Towers, Cloncurry, Ingham, Innisfail, Longreach, Mackay, Mossman, Rockhampton, Toowoomba, and Townsville, and, as a result of 810 examinations, 18 women were detained for venereal disease treatment, whilst eleven others were transferred to Brisbane for same from Rockhampton and Toowoomba.

*Treatment of Prostitutes during 1928-29.*

TABLES SHOWING NUMBER OF PROSTITUTES TREATED THROUGHOUT THE STATE.

Centre.			Number Remaining at 30th June, 1928.	Admitted During 1928-29.	Discharged During 1928-29.	Remaining at 30th June, 1929.
Ayr	..	..	Nil	4	3	1
Brisbane	..	..	22	55	70	7
Cairns	..	..	Nil	8	6	2
Ingham	..	..	Nil	1	1	Nil
Innisfail	..	..	Nil	2	Nil	2
Longreach	..	..	Nil	1	Nil	1
Rockhampton	..	..	*	*	*	*
Toowoomba	..	..	*	*	*	*
Townsville	..	..	2	2	4	Nil
Totals	..	..	24	73	84	13

\* Brisbane figures include 36 prostitutes detained as a result of examination at William street rooms and 5 patients transferred from the Brisbane Gaol, 6 prostitutes from Rockhampton, and 5 from Toowoomba, 1 non-prostitute (an incorrigible), and 2 escapees readmitted.



## FOOD HANDLERS.

Investigations were conducted in all instances where venereal patients described their occupations as food handlers or food preparing, which are contraventions of Venereal Disease Regulation 14 (I.)

Twenty-five cases were inquired into as under :—

Occupation.	Nature of Disease.	Result of Departmental Action.	Occupation.	Nature of Disease.	Result of Departmental Action.
Barman ..	Gonorrhœa ..	Discontinued	Cook (female) ..	Syphilis ..	Dismissed from occupation
Baker ..	Gonorrhœa ..	Discontinued	Confectioner ..	Gonorrhœa ..	Discontinued
Baker ..	Gonorrhœa ..	Discontinued	Dairy hand ..	Gonorrhœa ..	Discontinued
Butcher ..	Gonorrhœa ..	Discontinued	Fish shop hand..	Gonorrhœa ..	Discontinued
Butcher ..	Gonorrhœa ..	Discontinued	Grocer ..	Gonorrhœa ..	Discontinued
Butcher ..	Syphilis ..	Discontinued	Grocer ..	Gonorrhœa ..	Discontinued
Butcher ..	Gonorrhœa ..	Left State	Kitchenman ..	Gonorrhœa ..	Discontinued
Butter factory hand	Gonorrhœa ..	Discontinued	Meatworker ..	Gonorrhœa ..	Unemployed upon inquiry
Cafe assistant ..	Gonorrhœa ..	Discontinued	Meatworker ..	Gonorrhœa ..	Discontinued
Cook (male) ..	Gonorrhœa ..	Discontinued	Shop assistant ..	Gonorrhœa ..	Discontinued
Cook (male) ..	Gonorrhœa ..	Remained in hospital till cured	Shopkeeper ..	Gonorrhœa ..	On inquiry found not to be a food handler
Cook (male) ..	Gonorrhœa ..	Not traced	Waiter ..	Syphilis ..	Discontinued
Cook (male) ..	Gonorrhœa ..	Dismissed from occupation			

Total—24 males and 1 female.

## CERTIFICATES OF CURE OR APPARENTLY FREE FROM DISEASE RECEIVED.

(a) BRISBANE AREA—1ST JULY TO 31ST DECEMBER, 1928.

—	Gon.		Syph.		Sec. Syph.		Soft Chancre.		Gon. and Syph.		Ven. Warts.		Gon. and Sec. Syph.		Totals.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Private doctors ..	173	5	2	2	..	..	3	..	..	..	..	..	..	..	178	7
Male Clinic ..	94	..	9	..	5	..	..	..	..	..	..	..	..	..	108	..
From outside doctors for male clinic cases not notified by them ..	5	..	..	..	..	..	..	..	1	..	..	..	..	..	6	..
V. I. Hospital ..	..	40	..	2	..	..	..	..	..	..	..	1	..	1	..	44
Other hospitals ..	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..	6
Departmental female cases ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals ..	272	51	11	4	5	..	3	..	1	..	..	1	..	1	292	57

(b) AREAS OUTSIDE METROPOLIS—1ST JULY TO 31ST DECEMBER, 1928.

—	Gon.		Syph.		Sec. Syph.		Soft Chancre.		Gon. and Syph.		Ven. Warts.		Gon. and Sec. Syph.		Totals.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Private doctors ..	37	3	2	..	..	..	..	..	..	..	..	..	..	..	39	3
Clinic doctors ..	22	4	..	1	..	..	..	..	..	..	..	..	..	..	22	5
Hospital doctors other than at Clinics ..	19	10	2	..	..	..	..	..	..	..	..	..	..	..	21	10
Total for outside areas..	78	17	4	1	..	..	..	..	..	..	..	..	..	..	82	18
Total for Metropolis ..	272	51	11	4	5	..	3	..	1	..	..	1	..	1	292	57
Total for State ..	350	68	15	5	5	..	3	..	1	..	..	1	..	1	374	75

(c) METROPOLIS—1ST JANUARY TO 30TH JUNE, 1929.

—	Gon.		Syph.		Sec. Syph.		Soft Chancre.		Gon. and Syph.		Ven. Warts.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Private doctors ..	74	9	8	3	1	..	1	..	1	..	1	..	86	12
Male clinic ..	105	..	6	..	..	..	..	..	..	..	..	..	111	..
From outside doctors for male clinic cases not notified by them ..	2	..	..	..	..	..	..	..	..	..	..	..	2	..
V. I. Hospital ..	..	23	..	2	..	..	..	..	..	1	..	..	..	26
Other hospitals ..	1	10	..	..	..	..	..	..	..	..	..	..	1	10
Departmental female cases ..	..	4	..	..	..	..	..	..	..	..	..	..	..	4
Totals ..	182	46	14	5	1	..	1	..	1	1	1	..	200	52

(d) AREAS OUTSIDE METROPOLIS—1ST JANUARY TO 31ST DECEMBER, 1929.

—	Gon.		Syph.		Sec. Syph.		Soft Chancre.		Gon. and Syph.		Ven. Warts.		Gran.		Totals.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Private doctors .. ..	39	6	1	..	..	..	1	..	..	..	..	..	..	..	41	6
Clinic doctors .. ..	24	13	..	..	..	..	..	..	..	..	..	..	..	..	24	13
Hospital, other than clinic doctors .. ..	26	8	1	2	..	..	..	..	..	..	..	..	4	1	31	11
Totals .. ..	89	27	2	2	..	..	1	..	..	..	..	..	4	1	96	30
Totals for Metropolis same period .. ..	182	46	14	5	1	..	1	..	1	1	1	..	..	..	200	52
Totals .. ..	271	73	16	7	1	..	2	..	1	1	1	..	4	1	296	82

(e) CERTIFICATES OF CURE OR APPARENTLY FREE FROM DISEASE RECEIVED DURING PERIOD 1ST JULY, 1928, TO 30TH JUNE, 1929.

—	Gon.		Syph.		Sec. Syph.		Soft Chancre.		Gon. and Syph.		Gon. and Sec. Syph.		Venereal Warts.		Ulcerative Granu.		Totals.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Metropolis—																		
Male .. ..	454		25		6		4		2		..		1		..		492	
Female .. ..	97		9		..		..		1		1		1		..		109	
																	601	
Outside Areas—																		
Male .. ..	167		6		..		1		..		..		..		4		178	
Female .. ..	44		3		..		..		..		..		..		1		48	
																	226	
Totals—																		
Males .. ..	621		31		6		5		2		..		1		4		670	
Females .. ..	141		12		..		..		1		1		1		1		157	
																	827	
Grand Totals—																		
Both sexes .. ..	762		43		6		5		3		1		2		5		827	

## SANITATION.

A steady advance in matters appertaining to sanitary executive continues throughout the State. This is evinced by the reports of the Departmental officers and those of the Local Authorities' Health inspectors, which are submitted to the Department each month. These reports show that stricter supervision is being exercised and that systematic inspection work is regularly carried out.

The Local Authorities' inspectors, the majority of whom have now gained much valuable experience, are, with few exceptions, keen and efficient in the performance of their duties, and are proving of much assistance in health administration.

The enforcement of all the health laws by Local Authorities throughout the State has been inquired into, and instructions regarding matters requiring action were forwarded to the Local Authorities concerned.

The monthly reports which local inspectors are required to submit are carefully scrutinised, and, where necessary, advice, criticism, or instructions are given on matters which arise out of these reports. A considerable amount of work is entailed in perusing these reports, but this course is necessary in order to exercise proper surveillance over the health of the State.

The Department continues to insist on the installation of the standard cabinet panstead for closets, which apparatus is designed and constructed so as to be flyproof, and thereby eliminate the risk of fly-borne diseases.

The danger which is ever present of mosquito-borne diseases has been kept well in sight, and the enforcement of the regulations in respect to mosquito elimination has been constantly urged upon Local Authorities.

The conduct of sanitary services throughout the State has received attention. With few exceptions these services are carried out by daylight, and are well conducted.

Matters dealing with sewerage, house, hospital, and hotel drainage, septic tanks, water supplies, infectious disease hospitals, sanitary depots, rubbish disposal, and nuisances of all kinds have received close attention.

Inspectorial work has been carried out by headquarters staff as follows:—

	No.
General inspections .. ..	2,433
Reinspections .. ..	391
Official calls .. ..	458
Total .. ..	3,282

No. of nuisances .. .. 649

The regulations dealing with rat prevention and destruction were revised during the year, and the title of "The Rat, Flea, and Plague-Carrying Insects Prevention and Destruction Regulations" has been altered to the simple title of "The Plague Regulations, 1929." These regulations do not receive the recognition which they deserve, and the grave danger that may result by their non-enforcement does not appear to be realised by Local Authorities. It is true that in some towns rat-proofing operations are



being carried out, but in many cases apathy is shown in taking active measures for the prevention and destruction of rodents.

A warning note must again be sounded against the inactivity of rat-prevention work and the ever present danger of plague visiting our shores. One match can start a conflagration, and one plague rat can start an epidemic.

"The Plague Regulations of 1929" are based on the experience of many years, and contain every conceivable point which might arise in the course of a campaign.

Local Authorities have been granted wide and definite powers in these regulations, consequently there is no reason why more active measures have not been carried out.

The Department still retains the services of a skilled rat gang, who possess much experience in plague and rat-destruction operations.

During the year the following work has been carried out:—

*Poison manufactured—1,280 lb.*

	lb.
Sold to Local Authorities .. ..	554
Sold to public .. ..	459
Used for baits .. ..	231
In stock .. ..	36
Baits sold to public .. ..	6,850
Baits sold to outside centres .. ..	32,400

*Baits laid by Department's Gang.*

River walls .. ..	233,900
Wharves .. ..	51,150
Railway premises .. ..	106,050
Government buildings .. ..	48,500
Meatworks .. ..	58,800
Other premises .. ..	58,550
	<hr/> 556,950

608 4-lb. loaves and 231 lb. of poison were used in the making of 556,950 baits.

*Number of Rodents Examined at Laboratory.*

	Rats.	Mice.
Department's gang .. ..	920	22
Council's gangs .. ..	45,328	1,813
		Mouse.
Miscellaneous sources .. ..	11	1

*Number of Rodents Caught but not Examined.*

	Rats.	Mice.
Department's gang .. ..	527	—
Council's gangs .. ..	6,756	178

The following are a few of the duties performed in general inspectorial work:—

The drainage scheme for the aboriginal settlement at Barambah, designed and supervised by the Chief Sanitary Inspector, was completed early in the year, and the whole of the drainage system at the Barambah Hospital has been re-designed and reconstructed.

An inspection of the plant and equipment at Biggenden was made in consequence of an advance made by the Treasury in order to modernise the nightsoil service. The expenditure and execution of the work was reported as satisfactory and in accordance with the conditions of the loan.

Complaints of noxious odours from the swamp sewer at Coolangatta occasioned an inspection. The complaint was well founded, and it was recommended that a sewerage scheme be prepared for part of the town,

At Esk the pollution of Sandy Creek by the discharge of butter factory wastes came under the notice of the Department. A detailed report, with sketches formulating a scheme calculated to abate the trouble, was forwarded to the Shire Council for information and guidance.

A report on the dam and drainage matters at Goomeri was forwarded to the Council, after an inspection, and, as a consequence, the Kilkivan Shire Council has applied for an Order in Council to prevent the discharge of foul waters into street water-channels.

An inspection of the proposed additions and alterations to the sewerage system at Goondiwindi and inquiries into the pollution of the Macintyre River were made and a report with recommendations submitted thereon.

Hospital accommodation for the housing of infectious disease cases at Gympie was the subject of investigation. It was found that the accommodation for the isolation of the infectious sick, as well as that for the nursing staff, was inadequate, and the attention of the Council was directed to this insufficiency.

At Julia Creek a very serious and dangerous situation arose, which was inquired into and action taken. It was found that the atmosphere of the township was charged with arsenic, due to the dipping of large mobs of cattle at the trucking yards adjacent to the township. The dipping solution, which contained a large proportion of arsenic, drained from the cattle on to the surface of the ground and impregnated the soil. In dry weather the soil became a fine powder through the continual tramping of the cattle, and was carried by the prevailing winds towards the township, finding a lodging place in houses, shops, restaurants, as well as rain-water tanks. Samples of dust were obtained from two premises and submitted to the Government Analyst, who reported that one sample contained twelve parts per million (8/100 grains of arsenic to the pound) and the other ten parts per million (7/100 grains of arsenic per pound). Immediate action was taken to remove the trucking yards to a more suitable site.

At Kingaroy a new sanitary depot was selected after nine different propositions had been inspected.

The long-standing public nuisance due to the improper disposal of the buttermilk and drainage from the Kingaroy Butter Factory was again the subject of inquiry. It has now been decided, after many inspections and voluminous correspondence, to remove the piggery, to which the milk and wastes were pumped, about 4 miles distant from the town.

A scheme for conveying the wastes and buttermilk and the disposal of the surplus at the piggery is now being designed by a firm of consulting engineers.

A similar complaint was inquired into at Murgon, where the drainage was discharged into a natural storm watercourse. The buttermilk was pumped to a piggery in close proximity to Barambah Creek, which, as a consequence, had become polluted. A report with certain recommendations was furnished on the matter, and the management are considering these recommendations with a view to adopting new disposal methods.



A cursory inspection and inquiry into local sanitary executive was made at Roekhampton by the Chief Sanitary Inspector. A favourable report on the sanitary services was submitted. The report pointed out that a foul-water sewerage scheme is an urgent necessity for this city.

In connection with the recently established sanitary service at Tambourine, for which a loan of £300 was granted by the Treasury, an inspection of the plant and depôt was made and they were favourably reported on.

A loan of £250 was granted to the Wondai Shire Council for the re-equipping of the sanitary services at Wondai. After an inspection the expenditure and work were certified to be in accordance with the conditions of the loan.

The doubtful quality of the water supply at the Silverwood Dam, Warwick, came under suspicion. As a result, an inspection was made by the Chief Sanitary Inspector, and samples of water were submitted for analytical and bacteriological examination. These showed that the water did not comply with the standard of a potable water. Suitable recommendations were furnished to the Council.

Railway construction camps, twenty-three in number, along the Kyogle line from Beaudesert to the Border, were inspected in company with the Council's inspector. The visit entailed eighty inspections. Reports were submitted, with recommendations.

Seven main road construction camps were visited and favourably reported upon. At Oxenford the water supply of one camp was viewed with suspicion. Samples were taken and submitted to the Government Analyst and Bacteriologist. The water from a waterhole was certified to be highly contaminated with organic matter, and B. Coli were present in 40 c.c. and 10 e.e.

A visit to Bundaberg was occasioned by notice of removal of some old-age pensioners from the Gravel Reserve, in consequence of which representations were made to the Home Secretary on the matter. The conditions found were by no means satisfactory from a sanitary point of view. The Council were advised on the matter.

Suggestions were forwarded to the Council concerned, with regard to the swampy lands at Bribie Island.

Representations were made to the Pine Shire Council regarding the inadequacy of the sanitary accommodation at the North Pine reserve. The Council have now provided the additional accommodation required.

Regular visits of inspection have been paid to the Lazaret, Peel Island, during the year. All repairs, alterations, and improvements required at this institution were immediately carried out.

An investigation into the methods of refuse disposal at Ipswich was made. A report dealing with the modern method of controlled tipping was forwarded to the Council for their information. The method recommended is now being carried out, with satisfactory results.

A proposal by the Coolangatta Town Council to reorganise and re-equip their sanitary services was fully inquired into. A report, fully

agreeing with the Council's proposals, was submitted. These services are now operating efficiently and giving every satisfaction, and at a greatly reduced cost to the Council.

The sanitary accommodation provided at Nielson Park, Bargara, a seaside resort near Bundaberg, was the subject of complaint and criticism. An inspection was made and a report in support of the present arrangements was submitted to the Woongarra Shire Council.

The sewage dump at Milton has been kept under observation. The operations are carried out in a satisfactory manner. An obstruction, due to sawdust, occurred in the sewer. Action was at once taken by the Water Supply and Sewerage Department, and the stoppage removed without any serious results.

During the year new sanitary services were initiated at Burketown, Caloundra, and Graemere.

Sanitary contracts for the following services were submitted and approved:—Beenleigh, Graemere, Ingham, Cloncurry, Mount Isa, Mount Perry, Cooyar, Dalby, Winton, Brooloo-Imbil, Kadanga, Cunnamulla, Thursday Island, Woodford, D'Aguilar, Jericho-Alpha, Cooran, Pomona, Cooroy, Tewantin, Gympie terrace.

Refuse removal contracts were submitted and approved for Caboolture, Malanda, and Yungaburra.

By-laws for the following Local Authorities have been perused and amendments made where necessary:—Wondai, Barkly Tableland, Isis, Ayr, Normanby, Roekhampton, and drainage by-laws for Longreach.

The following regulations were revised during the year:—The Plague Prevention Regulations and the Licensed Victuallers Regulations.

The Fly Regulations were revised and amended, and are to be submitted for approval.

The Barbers Regulations were redrafted and submitted, but have so far not been approved.

The following vessels have been examined for the destruction of vermin:—"Bonito," "Matthew Flinders," "Casuarina," "Remora," "Platypus" (2).

Thirty-eight railway carriages which conveyed infectious disease patients were disinfected during the year.

Sixty-four regulation cabinet pansteads were inspected, passed, and stamped prior to despatch to the various parts of the State.

The following towns have been visited by Departmental officers from headquarters in connection with sanitary survey and licensing work during the year:—Alberton, Aratula, Boonah (3), Beaudesert (2), Bundaberg (4), Bribie Island, Burleigh Heads, Beenleigh, Bargara, Barambah, Biggenden (2), Benarkin (2), Blackbutt (2), Byrnestown, Coolangatta (3), Currumbin, Coomera, Coominya (2), Canungra, Cooran (2), Cooroy (2), Caloundra, Degilbo, Esk (3), Eumundi (4), Eidsvold, Fernvale, Forest Hill (2), Grantham (2), Gatton (2), Grandhester (2), Glamorgan Vale (2), Gympie (4), Goomeri (3), Goondiwindi, Gin Gin (2), Gundiah (2), Gayndah, Helidon, Haigslea, Harrisville (2), Howard (2), Ipswich, Kalbar (2), Kingaroy (3), Kilkivan (2), Laidley (2), Logan Village,



Lanington, Landsborough (2), Lowood (2), Linville (2), Mulgowie (2), Marburg (2), Mudgeeraba, Murgon (4), Moore (2), Mount Perry (2), Maryborough (2), Mooloolah (2), Maleny, Maroon, Mount Alford, Mungar, Mundubbera, Nambour (2), Oxenford, Plainlands (2), Peak Crossing, Petrie (3), Peel Island, Pialba (2), Pomona (2), Palmwoods (2), Proston, Rosewood (3), Redcliffe (2), Roadvale, Rosevale, Rathdowney, Rockhampton, Southport, Tarampa, Tambourine Mountain, Tambourine (2), Torbanlea (2), Tiara (2), Toogoolawah (2), Tingoorra (2), Theebine (2), Walloon (2), Waterford, Wondai (3), Warwick, Woombye (2), Woollooga (2), Yatala, Yandina (2), Yarraman Creek (2).

The annual inspection of hotels has been carried out in conjunction with the officers of the Police Department. The combined inspection proved satisfactory and avoided any overlapping.

The following licensing districts were covered by officers of the headquarters staff:—Brisbane, Bundaberg, Biggenden, Esk, Gin Gin, Gympie, Gayndah, Gatton, Harrisville, Ipswich, Kingaroy, Kilkivan, Laidley, Lowood, Maryborough, Mount Perry, Nambour, Rosewood.

The following figures show the work carried out in this respect:—

No. of hotels inspected	..	..	..	400
No. of hotels—objections lodged	..	..	..	224
No. of reinspections	..	..	..	125

As a result of such inspections, improvements have been carried out in respect to the following:—

Bedrooms	..	..	..	..	217
Bathrooms	..	..	..	..	176
Lavatories	..	..	..	..	197
Drainage and septic tanks	..	..	..	..	45
Miscellaneous	..	..	..	..	275

Extension of time has been granted to licensees where extensive alterations are contemplated, and also to others where valid reasons exist. However, guarantees in writing have been given that requirements would be carried out within a specified time.

Little trouble has been experienced in carrying out the provisions of the regulations governing licensed victuallers' premises. The licensees and owners have responded to the requirements of licensing inspectors in a very reasonable and public-spirited manner.

#### ROCKHAMPTON AND DISTRICT.

The following particulars of the work carried out in the Central District are supplied by the inspector stationed at Rockhampton:—

General inspections	..	..	..	1,104
Verbal complaints	..	..	..	38
Official calls	..	..	..	52
Reinspections	..	..	..	203
				<hr/> 1,397

Sixty-two inspections of refuse tips and forty-three inspections of sanitary depots were made, as well as ninety-one inquiries into infectious disease cases.

The defective state of the drainage system of Rockhampton is still a source of trouble, and during the year very little work has been done to improve matters. Many of the street water-channels contain stagnant drainage in which mosquitoes breed freely.

Three men are constantly employed in the Council's gang, and the destruction of rats is being systematically carried out. The installation of the regulation sanitary cabinet panstead is steadily being pushed forward, and good progress is being made in this important matter.

The sanitary depots at Lion Creek and Nobb street are being most efficiently worked. Many improvements have been effected, and the depot is a credit to those responsible for its operations. The collection of pans is systematically and well carried out.

The removal and disposal of refuse is efficiently carried out on sanitary lines.

The following towns have been visited, and reports on all sanitary matters have been furnished:—Gracemere, Caves, Wowan, Mount Morgan, Emerald, Barcaldine, Longreach, Ilfracombe, Aramac, Jericho, Blackall, Alpha, Anakie, Sapphire town, Ruby Vale, Springsure, Yepoon. In visiting these towns a distance of 1,547 miles was travelled.

At Longreach, progress in the fly-proofing of cabinet pansteads and the mosquito-proofing of rainwater tanks is being made. The question of drainage and septic tanks is also receiving consideration.

At Ilfracombe, Barcaldine, and Aramac there is a noticeable improvement in health matters. Barcaldine is still without a refuse removal service, despite the fact that the Council has been advised that such a service is necessary. Further improvements are required in the drainage of Blackall, but in other matters of sanitary executive this town shows considerable improvement.

Within the Jericho Shire area all the regulations are being strictly enforced. This Council deserves to be commended for interest they display in respect to health matters.

Progress is being made at Emerald and Springsure. Clermont has not yet installed a refuse removal service, which was recommended by the Department.

A high standard is still being maintained within the Livingstone and Fitzroy areas. The first-named Shire Council is installing a duplicate pan service at Keppel Sands. At Gracemere, within the Fitzroy Shire's area, a sanitary service is now in operation. All hotel premises within the towns visited were inspected, and many improvements have been carried out under the Licensed Victuallers Regulations.

#### CAIRNS AND DISTRICT.

The inspector in charge of this district reports that during the year under review advancement has been made in health matters throughout his area. Several townships are installing refuse removal services and enforcing the regulation regarding standard cabinets.

The sanitary services in operation in all the areas visited are satisfactory and well conducted.

All hotels have been subjected to inspection, and objections, where necessary, lodged at the annual Licensing Court.

The following places have been visited:—Tully (3), Atherton (3), Redlynch (2), Innisfail (2), Ravenshoe (2), Herberton (2), Tolga (2), Millaa



Millaa (2), Malanda (2), Tarzali (2), Yungaburra (2), Mareeba (3), Gordonvale, Peeramon, Kairi, Kullarra, Biboohra, Mount Molloy, Kullarra, Irvinebank, Mount Mulligan, Dimbulah, Lappa Junction, Mount Garnett, Mungana, Chillagoe, Almaden, Forsayth, Einasleigh, Cardwell, Babinda (2).

Sanitary surveys and licensing inspection work were carried out at all places visited. A total of 2,480 miles was travelled by rail and 100 miles by motor-car.

INSPECTIONS.				
General inspections	..	..	..	2,749
Reinspections	..	..	..	291
Official calls	..	..	..	23
Total	..	..	..	3,063

#### TOWNSVILLE AND DISTRICT.

In a review of the work carried out in this area, the inspector stationed at Townsville reports that during the past year little change has taken place in the conditions at Townsville City. No drainage scheme of any magnitude has been undertaken, although this is a feature of considerable importance and requires serious consideration.

The nightsoil removal and disposal service is fairly well carried out. Refuse continues to be utilised in filling up low-lying ground, particularly at South Townsville, where the disposal is well conducted.

At a number of hotels in the main part of the City notice has been given to instal septic tanks and water closets in accordance with the recent regulations, and in most cases the preliminary work, furnishing of plans, &c., is well under way. Bathroom accommodation has also received attention. During the year the under-mentioned towns have been visited:—Ingham, Halifax, Brandon, Ayr, Homehill, Reid River, Charters Towers, Cloncurry. A total of 2,102 miles was travelled.

Sanitary conditions at these places were found to be generally good. The visit to Cloncurry was occasioned by an outbreak of typhoid fever, which was ably handled by the Medical Officer of Health and the spread of the disease checked.

INSPECTIONS.				
General inspections	..	..	..	1,320
Complaints	..	..	..	60
Reinspections	..	..	..	301
Total	..	..	..	1,681

#### MACKAY AND DISTRICT.

Since the advent of a State Health Inspector at Mackay and the appointment of a local health inspector for the City and the five adjoining Shires, sanitation in the district has much improved.

The sanitary depots of the City of Mackay and North Mackay are well conducted, as are also the several depots situated in the Shires. The location of the depot at Eton has been changed to a new site which is high and dry.

All refuse dumps are in fair order and generally are well conducted.

All licensed victuallers' premises have been dealt with under the regulations, and much improvement has been effected.

The following towns have been subject to sanitary surveys:—Glenella (2), Farleigh (2), Wandaroo, Leap (2), Kuttatubul (2), Kolijo, Calen, Bloomsbury, Proserpine, Mount Jukes, Seaforth, Racecourse (3), Pleystowe (2), Marian (3), North Eton (2), Eton (3), Baker's Creek (2), Sarina (2), Walkerston, Range, Retreat, Nebo, Homebush, Mirani, Gargett, Pinnacle, Netherdale, Finch Hatton, Eimeo.

Inspections	..	..	..	..	2,488
Reinspections	..	..	..	..	350
					2,838

#### TOOWOOMBA AND DISTRICT.

The inspector for this district reports that he has carried out the routine investigations of complaints, as well as supervision of the Local Authorities' sanitary practices, whilst prosecutions and other duties under "The Venereal Diseases Regulations of 1928" have also received attention.

The Toowoomba City Council is pursuing its public health obligations in a very keen and public-spirited manner. This Council has always been progressive in its health administration.

With the advent of the regulations for hotels, a large amount of extra duties have materialised, and during the past six months of the year much time has been expended on inspection of hotel premises, and steps have been taken under the regulations to obtain a reasonable compliance with such provisions. Bathrooms fitted with white enamelled baths, kitchen sinks, effectual drainage, adequate water supply, and improved closets and urinal accommodation were insisted upon in all cases throughout the district. In some cases extension of time has been granted to complete work of an extensive nature.

The sleeping accommodation at such premises was subjected to a rigid inspection, with the result that a marked improvement has been effected.

The police licensing inspectors have given invaluable assistance, and their co-operation has proved of material benefit in obtaining improvements in the sanitary standard of licensed premises.

INSPECTIONS.				
General	..	..	..	296
Reinspections	..	..	..	779
Official calls	..	..	..	71
Liquor Act inspections	..	..	..	514
Total	..	..	..	1,660

The following towns were visited in this district during the year:—Wyreema, Westbrook, Oakey (3), Helidon, Clifton (4), Allora (2), Warwick (5), Texas, Inglewood, Yelarbon (2), Goondiwindi (2), Stanthorpe (2), Wallangarra (2), Killarney, Emu Vale, Tannymorel, Dalby (4), Tara, Kaimkillenbun, Bell, Jandowae, Warra, Chinchilla, Yeulba, Miles, Tallwood, Toobeah, Yangan, Cecil Plains, Greenmount, Nobby, East Greenmount. Mileage travelled, 3,939 miles.



## FOOD AND DRUGS.

During the fiscal year ended 30th June, 1929, food and drugs inspection has been conducted on the usual lines by officers of headquarters staff and by inspectors in charge of sub-offices in country areas.

The work has included enforcement of Part VI. of the Health Acts (Pure Food and Drugs), the Health (Fish Supply) Regulations, Milk-sellers' Regulations, Footwear Regulations, and Poisons Regulations.

*Staff.*—The only radical changes during the period under review have been the appointment of an assistant fish inspector and the withdrawal of officers in charge of the Department's sub-offices at Cloncurry and Charleville, and the transfer of such inspectors to headquarters staff.

These two particular stations will in the future be visited in the ordinary course on routine tours of inspection.

Operations by members of headquarters staff have included the following items:—

*Fish Supply.*—Early morning and midday sales at the State Fish Market have been supervised by two inspectors, who, in addition, have exercised control over supplies in cold stores, retail fish shops, and over consignments of cured fish arriving from overseas.

As the result of the efforts of these officers, 110 tons 17 cwt. 1 qr. 26 lb. of assorted (fresh) fish were condemned as unfit for consumption during the year, and were disposed of in a manner to their satisfaction.

Besides this class of fish the following marine articles of food were condemned and dealt with as aforesaid, viz.:—Salt salmon 40½ barrels, oysters 3 bags, crawfish 1,114, crabs (dead) 67, crabs (green) 86, crabs (female and undersized) 32, sand crabs 1,368.

*Food and Drugs Inspection* has been conducted on routine lines by officers of headquarters staff during the entire year in the Brisbane metropolitan area, and visits of inspection in such connection have also been paid by them to the following outside and country places, viz.:—Southport, Coolangatta, Burleigh, Mudgeeraba, Nerang, Oxenford, Coomera, Beenleigh, Yatala, Bethania, Waterford, Canungra, Tambourine, Tambourine Mountain, Logan, Beaudesert, Bundaberg, Maryborough, Pialba, Gympie, Rockhampton, Emerald, Longreach, Ilfracombe, Barcaldine, Aramac, Harrisville, Boonah, Kalbar, Ipswich, Fernvale, Lowood, Coominya, Esk, Toogoolawah, Moore, Linville, Benarkin, Blackbutt, Yarraman Creek, Nanango, Kingaroy, Tingoor, Wondai, Murgon, Goomeri, Kilkivan, Woolooga, Theebine, Helidon, Grantham, Gatton, Forest Hill, Laidley, Grandchester, Rosewood, Marburg, Glamorgan Vale, Rosevale, Mount Alford, Roadvale, Harrisville.

*Unsound Food.*—As a result of inspection of premises and stocks, officers of headquarters staff have during the fiscal period under review certified to the destruction of 17 tons 16 cwt.

22 lb. 6 oz. of deteriorated and unsound food and drugs, made up as per the following list:—

*List of Unsound Foods and Drugs Destroyed by the Headquarters Staff for the year ending 30th June, 1929—*

	Tons.	cwt.	qr.	lb.	oz.
Asparagus .. ..	0	0	0	2	0
Baking powder .. ..	0	1	0	20	0
Biscuits .. ..	0	0	0	10	0
Borax .. ..	0	0	0	8	0
Breakfast meals .. ..	0	2	2	27	8
Cereals (mixed) .. ..	0	12	0	8	8
Cheese .. ..	0	1	2	0	0
Cocoa .. ..	0	1	1	5	8
Coffee .. ..	0	0	0	3	0
Condiments (mixed) .. ..	0	10	0	11	0
Confectionery .. ..	0	5	0	23	0
Cream of tartar .. ..	0	16	0	0	0
Curry powders .. ..	0	0	0	21	0
Custard powders .. ..	0	1	3	8	8
Eggs .. ..	0	0	1	10	0
Essences .. ..	0	1	0	18	0
Fish (tinned)—					
Crab .. ..	0	0	0	2	8
Herring .. ..	0	1	2	3	12
Salmon .. ..	0	10	1	15	0
Pastes .. ..	0	0	3	15	0
Flour—					
Ordinary .. ..	1	3	1	26	0
Corn .. ..	0	0	1	26	0
Self-raising .. ..	0	0	3	9	0
Fruits—					
Dried .. ..	1	14	1	11	8
Tinned .. ..	0	1	0	2	0
Raw .. ..	0	0	2	0	0
Fruit Salts .. ..	0	0	0	5	0
Gravy powder .. ..	0	14	3	4	0
Jams .. ..	0	1	3	16	0
Jellies .. ..	0	1	2	17	0
Lemon Butter .. ..	0	0	0	2	8
Malt Extract .. ..	0	1	0	0	0
Meats—					
Tinned .. ..	0	2	2	10	8
Pastes .. ..	0	1	0	21	0
Medicines, patent, &c. .. ..	0	2	0	15	4
Milk (dried, skim, condensed) .. ..	2	12	1	18	0
Rice .. ..	0	0	2	20	0
Sago .. ..	0	0	0	5	0
Salt .. ..	0	6	1	8	0
Seasoning .. ..	0	3	1	12	0
Sugar (includes icing) .. ..	0	1	0	22	0
Tapioca .. ..	0	0	2	0	0
Tea .. ..	1	8	3	5	8
Tobacco .. ..	0	0	0	9	10
Toilet preparations .. ..	0	0	0	12	12
Vegetables .. ..	3	0	0	7	0
Yeasts .. ..	0	8	0	0	0
Miscellaneous .. ..	2	0	0	0	0
Total .. ..	17	16	0	22	6

In addition there were about 2,000 cigars and cheroots and approximately 5,000 cigarettes destroyed during the year's operations.

*Sampling.*—During the year a total of 1,986 samples of foods, drugs, and poisons were obtained by our officers and submitted to the Government Chemical Laboratory for examination.

These samples include:—Beverages and cordials 194, cereal preparations 8, condiments 8, essences 36, fish (tinned) 25, fruit and fruit juices 11, jam and honey 25, meat and vegetables 39, milk (fresh) 1,007, milk preparations 44, soap 46, spirituous liquors 77, wine 21, disinfectants 10, drugs and medicines 62, infants' foods 6, toilet preparations 6, water and sewage 39, miscellaneous 322.

*Adulterated Milk.*—In connection with milk sampling, inspectors of headquarters staff undertook thirty-two prosecutions in respect of the sale of adulterated milk.



Of these cases, three were dismissed with costs against the Department upon a technical issue.

Four cases were withdrawn upon payment by defendant of the Analyst's fee for the reason that convictions had already been obtained for similar offences on the same date. The remaining 25 cases were successful—a conviction being secured in each instance.

Total penalties imposed by the police magistrates amount to:—Fines £199 17s. 2d. and costs £42 10s. 3d., which works out at an average fine of about £7 19s. 11d. and average costs £1 14s. per case.

Besides the above prosecutions, which were based upon chemical certificates, two vendors were proceeded against for selling milk which failed to conform to the bacteriological standard prescribed in the Food and Drug Regulations. Defendant in each case was convicted and fined £2, with costs £2 5s. 6d.

Milk samples were obtained by headquarters officers from Brisbane, Beaudesert, Beenleigh, Coolangatta, Dayboro, Howard, Wynnum, Maryborough, Redcliffe, Sandgate, and Southport.

*Adulterated Liquor.*—Arising out of their inspection of hotel premises, headquarters inspectors prosecuted in six instances for the sale of adulterated spirits (rum and whisky). Total fines imposed amount to £24 and costs £7 7s., or an average fine of £4 per case and average costs £1 4s. 6d.

*Misbranded Liquor.*—During the year a prosecution was taken in respect to the false description of a proprietary whisky, when a conviction was obtained and defendant fined £10 and 3s. 6d. costs of court.

*Shortweight Bread.*—For selling bread deficient in due weight five bakers were proceeded against by headquarters inspectors, and a conviction was secured in each case.

The penalties imposed total, fines £40 17s., and costs £1 1s., working out at an average fine of £8 3s. 5d. and average costs 4s. 2d. per case.

*Miscellaneous Prosecutions.*—During the fiscal period under review the number of miscellaneous prosecutions conducted by members of headquarters staff total 53. These comprise various and varied breaches of the Acts and Regulations, and include the carriage of water on milk-carts, dirty food premises, improper handling of ice, exposure of food for sale to contamination, selling milk without a license, obstruction of officers, &c., &c.

A conviction was obtained in every case and a total of fines £83 16s. and costs £14 2s. imposed by the magistrates—being an average fine of £1 11s. 8d. and average costs 5s. 4d. per case.

*Lead in Paint Prosecution.*—For the offence of putting paint containing more than 5 per cent. of soluble lead on a prohibited portion of a residence to which children under the age of fourteen years had access, a painter was prosecuted, convicted, and fined £2, with £2 5s. 6d. costs.

*Poisons Prosecutions* undertaken by headquarters inspectors total five, of which all were successful.

The total fines imposed were £41, and costs £1 15s.—working out at an average fine of £8 4s. and average costs 7s. per case.

The offences disclosed consisted principally of the improper packing and labelling of schedule poisons.

*Bacteriological Sampling.*—During the year a total of 362 specimens, made up as follows, were collected and submitted by headquarters inspectors to the Department's bacteriologist for examination, viz.:—Milks 227, waters 79, ice cream and ices 23, flours 15, oysters 6, disinfectants 4, cheese 2, yeast 2, ling fish 1, filter 1, bottle 1, bottle cap 1.

#### COUNTRY FOOD AND DRUGS WORK.

##### *Cairns.*

In addition to his duties in and around Cairns, the officer in charge of the Department's sub-office in the far North has paid visits of inspection on food and drugs work to the following places, viz.:—Tully, Atherton, Redlynch, Innisfail, Ravenshoe, Herberton, Tolga, Millaa Millaa, Malanda, Tarzali, Yungaburra, Marceba, Gordonvale, Pearamon, Kairi, Kullara, Biboorha, Mount Molloy, Kuranda, Irvinebank, Mount Mulligan, Dimbulah, Lappa Junction, Mount Garnet, Mungana, Chillagoe, Alma Den, Forsayth, Einasleigh, Cardwell, Babinda.

*Samples.*—Twenty-four samples were obtained and submitted to the Government Chemical Laboratory, as follows:—Milk 7, whisky 4, brandy 2, rum 1, canned fruits 10.

*Unsound Foods.*—Deteriorated and unsound foods of a total weight of 1 ton 18 cwt. 15 lb. were certified as unfit and were destroyed by arrangement under our officer's supervision.

*Prosecutions.*—Three bakers were prosecuted for selling short-weight bread and were convicted and mulcted in penalties totalling—fines £11 2s. and costs 10s. 6d.

Two hotelkeepers were proceeded against for selling adulterated spirits, and in each case analysts' fee £1 1s. and 3s. 6d. costs of court, were recovered. While each was convicted, only one defendant was fined—the penalty in his case being £2 10s.

A cafe proprietor was prosecuted for having filthy premises, convicted, and fined £7 10s. and 3s. 6d. costs.

*Tours.*—In the course of his visits on food and drug inspection the Cairns officer travelled 2,480 miles by rail and 100 miles by motor-car.

##### *Townsville.*

The officer in charge of Townsville sub-office, in addition to his duties in the Northern City, paid visits of inspection on food and drugs work to the following outside places, viz.:—Ingham, Halifax, Brandon, Ayr, Home Hill, Reid River, Charters Towers, and Cloncurry, travelling on his tours a distance of 2,102 miles.

*Liquor Testing* at hotels and stores disclosed that the prescribed standards were well observed, and that proprietary spirits were true to label.

*Prosecutions.*—Four bakers were prosecuted for selling shortweight bread, a conviction being



obtained in each instance and penalties amounting to—fines £12 4s. 6d. and costs £3 1s. imposed by the magistrates—being an average fine of £3 1s. 1d. and average costs 15s. 3d. per case.

For the offence of selling adulterated milk a vendor was convicted and fined £3, with £3 6s. 6d. costs.

*Unsound Food.*—During the course of his inspections the Townsville officer issued certificates covering 14 tons 15 cwt. 3 qr. 23 lb. of deteriorated and unsound food, which was destroyed under his supervision as unfit for consumption.

#### *Mackay.*

The officer in charge of Mackay sub-office, in addition to his food and drug work in that town, has paid visits of inspection to the following outside places, travelling 1,946 miles by motor-car and 46 miles by rail, viz.:—Glenella, Farleigh, Wandaroo, Leap, Kuttambul, Koliyo, Calen, Bloomsbury, Proserpine, Mount Jukes, Seaforth, Racecourse, Pleystowe, Marian, North Eton, Eton, Baker's Creek, Sarina, Range, Retreat, Nebo, Homebush, Mirani, Gargett, Pinnacle, Netherdale, Finch Hatton.

*Unsound Food.*—During the course of his inspections the Mackay officer has issued certificates covering 5 tons 1 cwt. 23 lb. of deteriorated and unsound food material destroyed under his supervision as unfit for consumption.

*Samples.*—Fifty samples of milk and two samples of water have been submitted for chemical analysis during the year.

*Prosecutions.*—Six milksellers have been prosecuted during the period under review for selling adulterated milk, and convictions obtained in each instance. Penalties totalling fines £75 and costs £15 1s. were imposed, working out at an average fine of £12 10s., and average costs £2 10s. 2d. per case.

Three ice-carters were each fined 10s. and 3s. 6d. costs for the offence of delivering ice for sale in the bare hand.

A baker was fined 10s. and 3s. 6d. costs for delivering bread in his bare hand, and a store-keeper fined 10s. and 3s. 6d. costs for having confectionery exposed to contamination by flies and dust.

Two cases (faulty milk-cart and milk deficient in fat), in which a conviction was obtained at the hands of the police magistrate, were afterwards set aside on appeal to the Supreme Court.

#### *Rockhampton.*

In addition to his work in and around the City of Rockhampton, the officer in charge of the Department's sub-office at this centre has visited the following outside places on food and drugs inspection work, viz.:—Emerald, Barcaldine, Longreach, Ilfracombe, Aramac, Jericho, Blackall, Alpha, Anakie, Ruby Vale, Sapphire Town, Clermont, and Springsure, travelling altogether on his journeys 1,217 miles by train and 330 miles by motor-car.

*Unsound Food.*—During his inspections our Rockhampton officer has issued certificates covering 1 ton 2 qr. 24 lb. of deteriorated and unsound food material, which was destroyed under his supervision as unfit for consumption.

*Samples.*—Twenty-seven samples of milk and one sample of whisky were submitted to the Government Chemical Laboratory.

*Prosecutions.*—Three milk vendors were prosecuted for selling adulterated milk, and a conviction was obtained in each instance. Penalties totalling fines £30 and costs £5 17s. 6d. were imposed by the police magistrate, being an average fine of £10 and average costs £1 19s. 2d. per case.

One of these cases was afterwards lost on appeal by defendant to the Full Court.

Two bakers were proceeded against for selling lightweight bread and were convicted and fined respectively £3 and £2 5s. 6d. costs and £3 and 10s. 6d. costs.

#### *Toowoomba.*

The officer in charge of Toowoomba sub-office reports that, in addition to his routine duties in and around the City of Toowoomba, he has paid visits of inspection on food and drugs work to the following outside places, viz.:—Wyreema, Westbrook, Oakey, Helidon, Clifton, Allora, Warwick, Texas, Inglewood, Yelarbon, Goondiwindi, Stanthorpe, Wallangarra, Killarney, Emu Vale, Tannymorel, Dalby, Tara, Kaimkillenbun, Bell, Jandowae, Warra, Chinchilla, Yeulba, Miles, Tallwood, Toobeah, Yangan, Cecil Plains, Greenmount, Nobby, and East Greenmount, travelling 1,874 miles by train and 2,065 miles by motor-car on his tours.

*Unsound Food.*—Our Toowoomba inspector during the year issued certificates covering 1 ton 13 cwt. 3 qr. 14½ lb. weight of deteriorated and unsound food material, destroyed under his supervision as unfit for human consumption.

*Samples.*—One hundred and thirty-nine samples of fresh milk and one sample of water were submitted to the Government Chemical Laboratory for analysis. Of the 139 milk samples, 115 conformed to standard and 24 failed.

Concerning these latter, it is worthy to note that during the months of September, October, November, and January, the milk supply of Toowoomba was of poor quality, and of the total number of milk samples submitted for the year, 14.31 per cent. were found to be deficient in fat, and 1.43 per cent. deficient in total solids.

The said deficiencies being attributable to the poor condition of stock and the absence of nourishing pasture, prosecutions were not undertaken against the responsible parties, who were called upon to cull their respective herds and to resort to hand-feeding until such time as conditions improved.

With the advent of rain, conditions improved and the quality of milk returned to normal.

#### *Cloncurry.*

Concerning this sub-office, which was vacated on 6th December last, the officer then in charge reports the following particulars of work performed during his period of occupation:—

Routine inspection duties in connection with food and drug work were made from 1st July until 6th December, 1928. In addition, a tour was made of the surrounding district and visits



were paid to the following towns, viz.:—Dajarra, Urandangie, Camooweal, Burketown, Mount Isa, Duehess, and Julia Creek.

These visits necessitated travelling 973 miles by train and 234 miles by car.

From 14th December, 1928, until 1st March, 1929, the Cloncurry officer performed relieving duty at Townsville, from where he paid a visit on food inspection duties to the town of Ravenswood, travelling a further 160 miles by train.

#### *Charleville.*

Previous to leaving Charleville sub-office, the officer in charge paid visits of inspection on duties appertaining to food and drugs control to the following outside places, viz.:—Langlo, Adavale, Quilpie, Eromanga, Noeundra, Thargomindah, Eulo, Cumnamulla, Wyandra, Morven, Mungallala, Mitchell, Amby, Muekadilla, Roma, and Augathella.

*Milk Sampling* was performed by the Charleville inspector at Charleville, Roma, and Mitchell.

*Bread Weighing* was carried out at Morven, Roma, Mitchell, and Charleville.

#### CONTAMINATED CABBAGES.

Towards the end of last fiscal year it came under the notice of the Department that certain growers of vegetables in the Wellington Point district and surrounding areas were treating cabbages with arsenate of lead many times during the growth of the vegetables in order to protect them from insect invasion.

Samples of cabbages from such sources were subsequently obtained by our officers in the City markets and were submitted to analysis, when they were found to be dangerously contaminated with arsenate of lead.

The Department thereupon got in touch with the Under Secretary, Department of Agriculture and Stock, and requested him to assist in correcting such defect by circularising growers in the districts concerned, the principal points requiring emphasis being that the use of lead arsenate on growing vegetables should, if possible, be discontinued, and, in cases in which the use of such substance could not be dispensed with, that it be applied only in the early stages of growth and not at any time approaching the marketing period.

A regulation as follows was then framed and afterwards published in the "Food and Drug Regulations, 1928," issued on the 21st June in that year:—

#### *Regulation No. 34.*

- (5) No person shall dust or spray or otherwise treat any vegetable in such a manner that any poisonous or deleterious substance is left upon the vegetable when it is sold.
- (6) No person shall sell any vegetable which contains or has adhering to it or to any part of it any poisonous or deleterious substance.

Extract copies of the above regulations were printed and supplied to the Department of Agriculture and Stock for distribution by its field officers to the growers. This was done, and verbal instructions also issued in connection therewith.

For some time thereafter matters appeared to improve, and cabbages and other vegetables made their appearance upon the local market in a clean condition.

In the month of May in the present year, however, cabbages again began to arrive in the markets showing distinct signs of contamination with arsenate of lead, and the Department immediately addressed letters to the market management requesting that the defect be brought promptly and forcibly under the notice of their suppliers with a view to its correction.

A close watch was afterwards kept upon stands at the various markets, and at a later stage, as cabbages still continued to arrive exhibiting distinct signs of heavy contamination, this Department was compelled to take legal action under the Health Acts and to seize and apply through the courts for the forfeiture of certain consignments.

In such connection four growers were required to attend the Brisbane Summons Court to show cause, and 830 cabbages were ordered by the police magistrates to be forfeited and destroyed.

Besides the vegetables which were dealt with in a legal manner, a considerable quantity of cabbages was also destroyed by growers' agents upon their attention being drawn to similarly affected articles.

This action appears to have had the desired effect, and cabbages are now arriving in a clean state.

For details as to percentage proportions of lead and arsenic present in the condemned cabbages, please see Government Analyst's report.

#### LEAD IN SODA WATER.

Following the investigations reported in last year's return in which it was stated that all lead parts in soda fountains were ordered to be removed and that soda fountains in cases in the Brisbane area disclosing appreciable proportions of lead in the water issued therefrom were required to install a neutralising solution apparatus, I have to report that for a time such provision appeared to have the desired effect and samples of soda water yielded satisfactory results.

After a certain period, however, it was ascertained that specimens from certain soda fountains were again showing high lead figures, and upon further investigation it was noted that a number of the appliances installed had become choked or otherwise faulty and were not delivering the neutralising solution effectively.

The owners of such fountains were thereupon by notice required to discontinue the further sale of soda water until such time as the defects indicated had been corrected and the carbonated water contained less than one-hundredth grain of lead per gallon.



As a result of such notices a number of soda fountains in the City area have been overhauled, and improved systems of neutralising solution delivery installed, and it is anticipated in the forthcoming summer season lead figures in aerated waters from soda fountains will be reduced to within the prescribed standard of limitation.

PEEL ISLAND LAZARET.

The figures for the preceding year show that during the past twelve months there has been a decrease of thirteen inmates, accounted for by six admissions, two of whom were readmissions, and fourteen discharges and five deaths.

The usual conditions of release are that the presence of bacilli lepræ has not been detected for eighteen months prior to release, and that the discharged person shall give an undertaking that he will present himself to the nearest Government Medical Officer quarterly for the first twelve months, once in each six months for the following year, and once yearly afterwards.

By this means the discharged person is under some measure of surveillance and he is issued from time to time with supplies of drugs as a preventive against a recurrence of the disease. The drugs in use at the Lazaret principally consist of chaulmoogra oil and its derivatives—anti-leprol, sodium hydnocarpate, and alepol, and which are obtained in bulk as required at a more advantageous price than if secured on the local market in small quantities.

The proportion of white and coloured patients shows little difference, and in the generality of cases there is little evidence to assist in arriving at a conclusion regarding the primary condition causing the disease, which still remains a matter for conjecture.

Everything possible is done for the welfare and comfort of the patients. Recreation in the way of tennis, football, and wireless sets is provided, all of which tend to make for the contentment of the patients and dispel the dreariness of their isolation.

The following table shows changes that have occurred amongst the inmates during the past year :—

Inmates.			1st July, 1928.	Admitted.	Re-admitted.	Discharged.	Died.	Remaining 30th June, 1929.
White males	..	..	31	3	..	8	3	23
White females	..	..	10	..	..	1	..	9
Coloured males	..	..	30	1	2	5	1	27
Coloured females	..	..	6	..	..	..	1	5
Totals	..	..	77	4	2	14	5	64

Fourteen patients were discharged conditionally on their reporting themselves for medical and bacteriological examination at stated intervals, one of whom has since been readmitted.

NURSES AND MASSEURS REGISTRATION BOARD.

Since the last Annual Report, the provisions of “*The Health Acts, 1900 to 1922*,” in relation to the registration of nurses have been rescinded and a new Act has been passed, which outlines the training, qualifications, and registration for general, midwifery, mental, and child welfare nurses, as well as masseurs. The Act referred to is cited as “*The Nurses and Masseurs Registration Act of 1928*,” and under which a new and complete set of regulations has been gazetted.

LABORATORY OF MICROBIOLOGY.

The work performed in the Microbiological Laboratory for the year ending 30th June, 1929, is as follows :—

The total number of specimens received numbered 80,637, a decrease of 1,478 on those of last year. This decrease was due to a great decline in the number of rat smears (for the plague bacillus) received from the Northern towns, a decrease of 2,698 smears.

The following tabular statement shows the source of the specimens received for examination by the laboratory :—

Specimens from—	Medical Practitioners.	Hospitals.	Councils and Institutions.
Within the Brisbane area ..	97	8	7
Outside the Brisbane area ..	74	44	40

*Plague.*—The number of rodents destroyed during the year shows an increase of 3,013. Of the 48,095 received, all were examined, but in none of them was the plague bacillus found.

All rats received were classified as follows :—

Rattus Rattus Norvegicus	..	..	29,501
Rattus Rattus Rattus	..	..	3,115
Rattus Rattus Alexandrinus	..	..	6,828
Hydromys Leucogaster	..	..	2
Unclassifiable (very young rats)	..	..	6,813
Mus Musculus	..	..	1,836

Ten rats examined showed the presence of numerous acid-fast bacilli (rat leprosy).

Spleen smears from rats in Northern towns showed a very marked decline; examination failed to show the presence of the plague bacillus.



*Diphtheria*.—A slightly decreased number of cultures was submitted for examination, and the number in which the bacillus was detected was 9.9 per cent., compared with 18.7 per cent. last year. This decrease in positive cultures is reassuring, and was observed in the examination of a metropolitan school of 1,107 pupils, when only eight carriers of the bacillus were found.

*Venereal Disease*.—An increased number of blood sera was submitted for the Wassermann reaction, and the number giving a positive reaction showed an increase over that of last year. A slightly decreased number of smears was submitted to examination for gonococcus, and the number of positive smears was 7.4 per cent., as compared with 6.8 per cent. last year. The blood sera examined for the complement deviation test for gonorrhœa shows an increase.

*Tuberculosis*.—A slightly decreased number of sputa was examined for the tubercle bacillus, and the number in which the bacillus was found was 24.4 per cent., as compared with 23.5 per cent. last year.

*Leprosy*.—An increased number of smears was examined for the bacillus lepræ, but the majority of these were from persons suffering from the disease—patients at the lazaret.

*Typhoid*.—An increased number of bloods was examined for Widal's agglutination, and the number positive shows a percentage of 22.7, compared with 27.4 of last year. The number of urines and fæces also shows a very marked increase, and the number in which the bacillus was found was a percentage of 2.1.

During the year, owing to an outbreak of typhoid in Cloneurry, it was found necessary to have an investigation made in that town, and specimens were examined, including fourteen Widal's, nine waters, and forty-five urines and fæces.

*Vaccines*.—A marked increased number of autogenous vaccines from sputa, urines, fæces, nasal discharges, pustules, &c., was prepared during the year, and the amount of anti-typhoid (T.A.B.) vaccine (3,100 c.c.'s) supplies shows a very marked increase.

*Miscellaneous*.—The number of miscellaneous specimens, which include waters, milk, ice-cream, flour, fæces (ova), &c., show in some cases an increase.

The following places were visited in connection with medico-legal work during the year:—Townsville (2), Cloneurry, Gympie, and Cairns.

REPORT ON SPECIMENS RECEIVED IN LABORATORY DURING YEAR 1928-29.

Examination.	Health and Hospitals.	Private Practitioners.	Total.
Diphtheria—			
Cultures .. ..	10,283	1,981	12,264
Virulent tests .. ..	..	2	2
Direct smears .. ..	..	12	12
Gonorrhœa—			
Smears .. ..	7,969	1,089	9,058
Complement deviation test .. ..	217	3	220
Cultures .. ..	6	..	6
Syphilis—			
Wassermann reaction ..	1,371	421	1,792
Typhoid—			
Widal reaction .. ..	51	28	79
Urines .. ..	130	18	148
Fæces .. ..	159	26	185
Vaccines—			
Urethral discharge ..	1	..	1
Urines .. ..	4	1	5
Pus .. ..	4	..	4
Sputum .. ..	1	3	4
Swab .. ..	1	7	8
Culture .. ..	2	9	11
Fæces .. ..	1	5	6
Organisms—			
Smears .. ..	9	2	11
Cultures .. ..	4	2	6
Pleural Fluid .. ..	1	1	2
C. S. Fluid .. ..	2	..	2
Urine .. ..	1	..	1
Smear .. ..	4	1	5
Pus .. ..	2	..	2
Sputum .. ..	2	1	3
Fæces .. ..	..	1	1
Blood .. ..	..	1	1
Cheese .. ..	2	..	2
Examination—			
Milk (count) .. ..	223	..	223
Milk (T. B.) .. ..	4	..	4
Filter .. ..	1	..	1
Contents from Kaustine Closet .. ..	1	..	1
Sample of effluent ..	1	..	1
Flour (B. Mesentericus) ..	15	..	15
Yeast (B. Mesentericus) ..	2	..	2
Ling fish .. ..	1	..	1
Oysters .. ..	6	..	6
Waters .. ..	88	2	90
Urine (Spermatoza) ..	..	1	1
Ice cream .. ..	23	..	23
Urine (pus) .. ..	1	..	1
Wood (blood stains) ..	1	..	1
Gall stone (identification) ..	..	1	1
Sterility—			
Bottle .. ..	1	..	1
Boitle caps .. ..	1	..	1
Disinfectant—			
Coefficient .. ..	4	..	4
Tuberculosis .. ..	186	210	396
Leprosy .. ..	856	83	939
Fæces—Ova .. ..	2	11	13
.. —Anchylostoma .. ..	19	17	36
Pernicious anæmia .. ..	2	1	3
Vineent's angina .. ..	..	2	2
Ringworm .. ..	4	..	4
Malaria .. ..	2	1	3
Aene .. ..	..	1	1
Actinomyeosis .. ..	..	1	1
Differential count (blood) smear .. ..	..	10	10
Medico-Legal—			
Blood stains .. ..	5	..	5
Seminal stains .. ..	6	..	6
Totals .. ..	21,682	3,955	25,637



EXAMINATION OF RATS AND MICE FOR PLAGUE.

Rodents, received from—	Rats.	Mice.	Total.
Department of Public Health	920	22	942
Brisbane City Council ..	45,328	1,813	47,141
Miscellaneous .. ..	11	1	12

Rodents Destroyed by Brisbane City Council.  
(Not examined.)

Rats .. ..	6,756
Mice .. ..	178

Rat Smears Received during the Year.

Maryborough .. ..	3,292
Bundaberg .. ..	1,238
Gympie .. ..	763
Ipswich .. ..	846
Cairns .. ..	289
Mackay .. ..	406
Douglas .. ..	3
	6,837

Grand Total .. ..	80,637
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Requisitions received during the year .. 472

Cultures and swabs supplied to the Commonwealth laboratories were as follows:—Cairns 2,304, Townsville 4,032, Toowoomba 3,672, and Rockhampton 2,880.

CULTURE MEDIA PREPARED IN THE LABORATORY DURING THE YEAR 1928-29.

Medium prepared.	No. of C.C.'s.
Ordinary Agars—	
Stabs (large) } .. ..	14,765
Stabs (small) }	
Slopes (large) }	
Slopes (small) }	
Ordinary Broth .. ..	18,220
Broth for testing disinfectants }	
Serum Medium—	
Ox Serum Cultures .. }	174,810
Human Serum Cultures }	
Sabourand's Medium .. ..	500
Gonococcus Medium—	
Slopes } .. ..	760
Stabs }	
Endo's Medium .. ..	8,550
Brilliant Green Medium .. ..	2,000
Medium for V.P. Reaction .. ..	580
Litmus Milk .. ..	1,290
Russell's Medium—	
Slopes } .. ..	850
Stabs }	
Lactose (20 per cent. Glucose, 20 per cent. for B. Green Medium) ..	250
Peptone Water .. ..	600
Neutral Red Lactose Peptone Water ..	180
Glycerine (30 per cent. for B. Typhosus)	900
Glucose Neutral Red Broth .. ..	360
Methyl Red Medium .. ..	300
Sugars—	
Lactose .. ..	4,100
Maltose .. ..	2,040
Arabinose .. ..	180
Levulose .. ..	500
Saccharose .. ..	1,100
Mannite .. ..	2,040
Salacine .. ..	420
Inulin .. ..	500
Glucose .. ..	1,675
Dulcite .. ..	790
Dextrin .. ..	180
Erythrite .. ..	180
Sorbitate .. ..	180
Raffinose .. ..	500
Galactose .. ..	500
Inosite .. ..	250
Glycerine .. ..	180
Double Lactose .. ..	1,250
Treble Lactose .. ..	1,540
Grand Total .. ..	243,020

STAFF.

The headquarters staff consists of the following officers:—Commissioner of Public Health, Secretary, Senior Clerk, four clerks, two typistes, two Chief Inspectors, eleven inspectors, one assistant inspector, and two messengers.

In addition, five inspectors are stationed at outside centres. The staff of the laboratory consists of an assistant bacteriologist, a second assistant bacteriologist, two assistants, one attendant, a typiste, and a glass cleaner.

The staff of the Metropolitan Venereal Disease Clinics consists of five part-time medical officers, a part-time chemist, and a lay attendant.

A sister, an assistant, and a cook-laundress are stationed at the Venereal Isolation Hospital, at which one of the part-time medical officers attends daily.

In addition there are part-time medical officers at outside centres in respect to venereal disease work.

A part-time medical officer has charge of the Brisbane Pulmonary Tuberculosis Bureau.

The lazaret staff consists of a superintendent, an assistant, a nurse, a housekeeper, four cooks, and four attendants.

The Brisbane rat gang consists of a foreman, with seven men engaged on rat destruction as well as disinfecting work.

ADMINISTRATION.

It is the practice of this Department to persistently urge on Local Authorities the need for progress in matters pertaining to public health, and with this object in view the officers of the Health Department are always available to give advice and practical assistance to Councils requiring same.

Many Local Authorities are under the mistaken impression that the enforcing of the provisions of the Health Acts and Regulations places an unwarranted burden on them, and in order to avoid expense do not conscientiously carry out same.

They forget that these regulations contain precautionary and preventive measures, and that neglect of one part may seriously affect the whole State.

This is specially so in regard to the Plague Prevention Regulations, and I regret to say that some of our coastal Local Authorities are not seized with the importance of these measures. If councils would strictly carry out their duty they would not find themselves burdened with the expenses of epidemics. Typhoid epidemics occur through the neglect of the provisions of the Sanitary Conveniences and Nightsoil Disposal Regulations, and diphtheria is allowed to spread by delay or neglect in carrying out the requirements of the Diphtheria Regulations in regard to isolation of patients and swabbing of contacts.

In this connection the hearty co-operation of councillors might well be expected, and if they are alive to their responsibility to the public they should certainly secure the enforcement of protective measures as laid down by law, and were this done a considerable saving to the rate-payers would result.



I feel it incumbent, before concluding my Annual Report, to acknowledge the valuable assistance rendered by the Government Analyst, as well as the officers of his Department, whose services have been freely availed of in connection with the many phases of Food and Drug administration.

My appreciation of the Police Department officers for their ready assistance is also recorded; the many inquiries made for venereal disease defaulters has occasioned considerable work, and no small meed of praise is due to the police entrusted with this duty.

As the Crown Law officers have rendered signal service with their advice, as well as

appearing in Court to conduct prosecutions under the Health Acts, I desire to tender them my thanks, as it is mainly due to their valuable assistance that the Department's legal actions have proved successful.

Thanks are also due to the Department of Public Instruction, through its principal medical officer, Dr. St. Vincent Welch, who has, as in the past, cheerfully co-operated with this Department in protecting the health of school children.

I am, &c.,  
JOHN COFFEY, F.R.C.S., D.P.H.,  
Commissioner of Public Health.

Appendix A.

GOVERNMENT CHEMICAL LABORATORY.

Brisbane, 6th August, 1929. Department of Public Health during the year 1928-1929. The number of samples examined during this period was 1,986, an increase of 194 samples on the work of the previous year. The following table gives a summary of the work done:—

The Commissioner of Public Health, Brisbane.

SIR,—I have the honour, in accordance with section 31 of “*The Health Acts, 1900 to 1922*,” to submit the following report of work done in the Government Chemical Laboratory for the

TABLE I.

Food or Drug.	Total Number of Samples.	Passed.	Failed.
Beverages and cordials .. .. .	194	110	84
Cereal preparations .. .. .	8	8	..
Condiments .. .. .	8	6	2
Essences .. .. .	36	22	14
Fish (tinned) .. .. .	25	18	7
Fruit and fruit juices .. .. .	11	7	4
Jam and honey .. .. .	25	24	1
Meat and vegetables.. .. .	39	2	37
Milk, fresh .. .. .	1,007	778	229
Milk preparations .. .. .	44	41	3
Soap .. .. .	46	32	14
Spirituous liquors .. .. .	77	52	25
Wine .. .. .	21	10	11
	1,541	1,110	431
Disinfectants .. .. .	10		
Drugs and medicines .. .. .	62		
Infants' foods .. .. .	6		
Toilet preparations .. .. .	6		
Water and sewage .. .. .	39		
Miscellaneous .. .. .	322		
	1,986		



In the case of tinned foods, fish, meat, and spirituous liquors, where a preliminary examination by the inspector is sometimes an indication of the quality of the sample, a comparatively high proportion of the samples submitted naturally fails. In such cases the proportion of failures is obviously not an indication of the

proportion of such foods on the market which fail to reach the standard.

Of the total number of samples of foods and drugs submitted, 766 were legal samples taken by inspectors strictly in accordance with the provisions of the Health Acts. The results are shown in Table II.:

TABLE II.

Nature of Sample.										Number of Samples.	Passed.	Failed.
Cabbage	..	..	..	..	..	..	..	..	..	4	..	4
Paint	..	..	..	..	..	..	..	..	..	9	6	3
Milk	..	..	..	..	..	..	..	..	..	715 (4 sour)	506	205
Miscellaneous	..	..	..	..	..	..	..	..	..	5	4	1
Spirituous liquors	..	..	..	..	..	..	..	..	..	33	9	24
										766	525	237

The following table records details in regard to the 715 legal samples of milk:—

TABLE III.

Place.				Number of Samples.	Passed the Standard.	Genuine but below the Standard.	Deficient in Fat.	Adulterated with Water.	Average Percentage of Added Water.	Sour and Unfit for Exact Analysis.
Ayr	..	..	..	4	..	..	3	1	13	..
Beaudesert	..	..	..	3	2	1	..	..	..	..
Brisbane North	..	..	..	196	137	18	11	30	11	..
Brisbane South	..	..	..	85	73	5	1	6	14	..
Burleigh	..	..	..	6	5	..	1	..	..	..
Cairns	..	..	..	7	6	..	..	1	6	..
Coolangatta	..	..	..	10	5	3	..	2	16	..
Dayboro	..	..	..	79	63	8	2	4	12	2
Howard	..	..	..	5	..	..	1	4	12	..
Mackay	..	..	..	50	16	4	11	19	8	..
Manly and Wynnum	..	..	..	32	27	2	2	1	13	..
Maryborough	..	..	..	15	7	4	1	3	3	..
Mitchell	..	..	..	6	1	..	2	3	20	..
Pialba	..	..	..	8	6	..	..	2	20	..
Redcliffe	..	..	..	8	5	3	..	..	..	..
Rockhampton	..	..	..	25	11	4	1	7	9	2
Roma	..	..	..	8	3	2	3	..	..	..
Sandgate	..	..	..	11	11	..	..	..	..	..
Southport	..	..	..	17	16	..	1	..	..	..
Toowoomba	..	..	..	140	112	3	23	2	14	..
				715	506	57	63	85	11	4

TABLE IV.  
SUMMARY OF TABLE III.

										Number of Samples.	Percentage.
Adulterated with water	..	..	..	..	..	..	..	..	..	85	11.90
Deficient in fat	..	..	..	..	..	..	..	..	..	63	8.80
Unsuitable for exact analysis	..	..	..	..	..	..	..	..	..	4	0.56
Genuine but below the standard	..	..	..	..	..	..	..	..	..	57	7.97
Passed the standard	..	..	..	..	..	..	..	..	..	506	70.77
										715	100.00

The following table shows the milk position as compared with the four previous years:—

TABLE V.

Year.								Number of Legal Samples.	Percentage Watered and Deficient in Fat.	Average Percentage of Added Water.
1924-25	..	..	..	..	..	..	..	697	9	10
1925-26	..	..	..	..	..	..	..	1,027	13	8
1926-27	..	..	..	..	..	..	..	941	11	14
1927-28	..	..	..	..	..	..	..	732	9	7
1928-29	..	..	..	..	..	..	..	715	20.7	11



The improvement in the milk supply during 1927-1928, as compared with other years, has unfortunately not been maintained; in fact, the proportion of adulteration this year is much higher than it has been for many years. The only redeeming feature of the position is the continued improvement in the cleanliness of the supply as adjudged from its comparative freedom from visible dirt and from bacteria.

Nearly 8 per cent. of the samples received were genuine milks which failed to conform to the legal standard for milk. Probably nowhere else in the British Empire is the milk vendor so thoroughly safeguarded from unfair prosecution as in Queensland. Only results from fresh samples are accepted for the purposes of legal prosecution, and the umpire sample is kept in cold storage so that it will be in a fresh condition for analysis when required.

For more than twenty years the freezing-point test has been used in the routine examination of milk in this laboratory. Following a paper on this subject which I read before the Queensland Royal Society in 1909, the Dominion Laboratory of Wellington, New Zealand, investigated and adopted the freezing-point method for determining added water in milk, and has now employed it for fifteen years with eminently satisfactory results. According to a recent report from this laboratory, the maximum variation in the freezing point of milk is from 0.545 deg. C. to 0.565 deg. C. Only one out of 270 samples recorded above 0.55 deg. C. These results confirm our own and those of many other observers in other parts of the world. Dr. Monier Williams reported in 1912 to the Local Government Board of Great Britain that the freezing point is "the most constant of any of the properties exhibited by milk." This capable observer, however, retarded general adoption of the method in Great Britain by stating that "owing to the experimental difficulties involved in obtaining reliable results, it is somewhat doubtful whether the method is capable of general application for purposes of milk control." We have, however, reduced the mechanism of the test to such simplicity that any ordinarily trained observer can determine the proportion of adulteration to within 1 per cent. of the truth.

In last year's annual report it was noted that arsenate of lead had been found in cabbages in dangerous proportion. The Food and Drug Regulations provide for no arsenic or lead in vegetables. A number of growers, particularly in one district, took no notice of the warnings given, and a number of consignments of cabbage contaminated with arsenate of lead have been seized in the markets and destroyed. Many of these cabbages contained comparatively high amounts of arsenate of lead, four containing between 15 grains and 17 grains of arsenate of lead. One on which the white stains of arsenate of lead were freely visible was boiled with salt and a little soda exactly as in an ordinary household. After straining, it was found on analysis that the arsenate of lead as a result of the boiling had become evenly distributed throughout the

cabbage and water. The total arsenate of lead present was 15 grains. An ordinary helping of about 3 oz. of this cabbage would contain 0.25 grain of lead (calculated as metal) and 0.375 grain of arsenic (calculated as  $\text{As}_2\text{O}_5$ ). Children are being advised at school to drink a cupful of cabbage water when get the chance—probably for the vitamin content. A cupful (say 9 oz.) of water from this cabbage would contain 1.1 grain of lead (calculated as metal) and 0.6 grain of arsenic (calculated as  $\text{As}_2\text{O}_5$ ), and the maximum medicinal dose of arsenic for an adult is only 0.06 grains. It is quite evident that there must have been cases of fairly acute poisoning from some of these cabbages. The symptoms of gastric and intestinal irritation, in such cases occurring after a meal, would not unlikely and not unnaturally be classed as "ptomaine poisoning." There would also be a certainty of chronic lead poisoning if such contaminated cabbages were regularly used as a food. The drastic but necessary destruction of contaminated consignments will probably put an end to this highly dangerous practice.

Of 119 samples of soda water examined, 69 samples contained lead at the rate of 1/100th grain or more per gallon. While the proportion of lead has been markedly reduced since 1926-27, it is important from a health standpoint that soda water should be entirely free from such a toxic substance as lead. It would be interesting to know if the country that is supplying carbonators containing lead solder to Australia is also providing its own inhabitants with soda fountain drinks containing lead in solution. Queensland and Palestine are the only countries so far where we have seen the presence of lead in soda water reported.

Of twelve samples of orange cordials examined, seven passed the fruit cordial standard; which requires the presence of not less than 20 per cent. of fruit juice. The aerated orange beverages on the market contained from nil to 10 per cent. of orange juice. The orange drink stalls were found to be dispensing a beverage containing about 10 per cent. of orange juice. The present popular demand for pure fruit drinks is one of the most beneficial national dietetic advances of recent years. Our most important fruits from the standpoint of vitamins are tomatoes, lemons, oranges, and bananas. Every one of these fruits contains at least four vitamins, namely, A, B, C, and D. These vitamins are the antirachitic, growth, antiscorbutic, and antineuritic "factors." It is important from the aspect of national health and the interests of our orchardists that the use of pure fruit drinks should be fostered in every possible way. A regulation appears to be necessary, stipulating for a minimum proportion of say 5 per cent. of orange juice in orange beverages and the elimination of preservative and artificial colouring from all drinks sold over the counter for immediate consumption, and purporting to be made on the premises from fresh fruit juice.

Of twenty-two samples of minced meat and sausages examined, thirteen samples failed to meet the standard in regard to preservative, the excess of sulphur dioxide in the sausages ranging from 2 to 243 per cent. Preservative is now forbidden in minced meat.



Three samples of chewing gum contained drugs in the form of acetylsalicylic acid and phenolphthalein. This method of administering drugs is undoubtedly dangerous.

A sample of soap, sold at a fabulous price, and described as flesh reducing, was found to be ordinary toilet soap adulterated with talc. A liquid preparation for reducing adipose tissue consisted of alcohol, soap, and camphor. The selling price of this simple mixture worked out at nearly £5 per pint.

In connection with cases of lead poisoning, mainly among children, 197 samples of urine were examined, and of these 31 were found to contain lead, generally less than 1/5th milligram per 24-hour specimen.

The miscellaneous samples were made up as follows:—

Sample.	Number.
Aluminium plates .. .. .	7
Bottle capsules .. .. .	5
Cleaners .. .. .	9
Cocoa beans .. .. .	5
Custard powder .. .. .	3
Dust .. .. .	4
Hair .. .. .	7
Hydrometers .. .. .	7
Insecticides .. .. .	7
Paint and paint thinners .. .. .	15
Poisons .. .. .	3
Water softeners .. .. .	3

and also almonds, ammonia, body fluid, boiler deposit, cake, case hardener, cigarettes, fish, grass, lead, methylated spirits, oleo-resin, preservatives, rubber plaster, sputum, peanut paste, tea, tin pipe, veneeroline, snuffit, thermometers, wool, and vinegar.

Yours faithfully,  
J. B. HENDERSON,  
Government Analyst.



